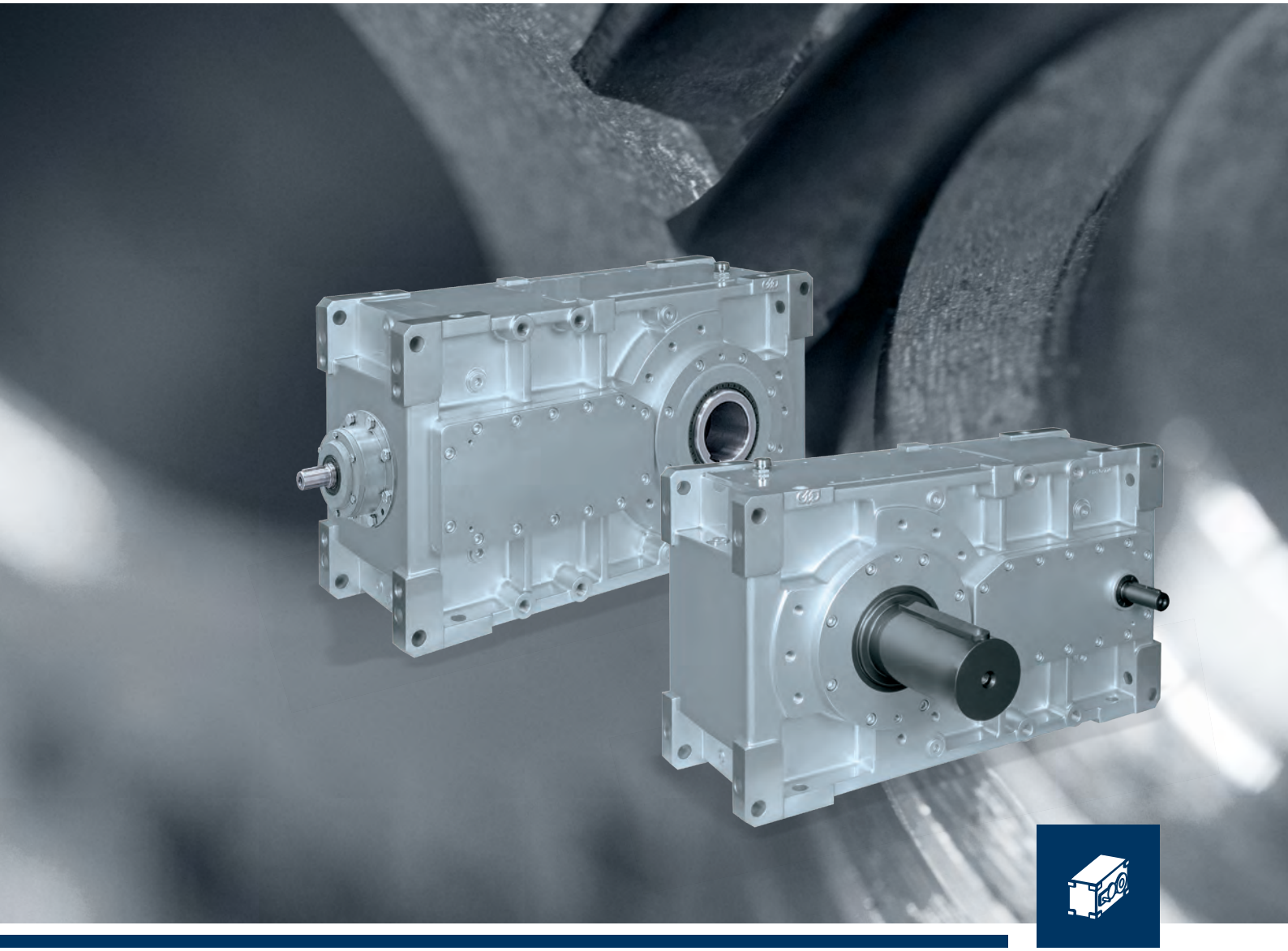
Bonfiglioli

Riduttori

HDP-HDO series

Parallel shaft gear units HDP series
Bevel helical gear units HDO series



PRODUCT

Ex INCLUDED

Bonfiglioli
Forever Forward

Revisions

Refer to page 338 for the catalogue revision index. Visit www.bonfiglioli.com to search for catalogues with up-to-date revisions.

1 SYMBOLS AND UNITS OF MEASUREMENT

Symbols	Units of Measure	Description
$An_{1,2}$	[kN]	Permissible axial force
f_S	–	Service factor
i	–	Gear ratio
l	–	Cyclic duration factor
J	[Kgm^2]	Mass moment of inertia
$M_{1,2}$	[Nm]	Torque
$Mc_{1,2}$	[Nm]	Calculated torque
$Mn_{1,2}$	[Nm]	Rated torque
$Mr_{1,2}$	[Nm]	Torque demand
$n_{1,2}$	[min^{-1}]	Speed
$P_{1,2}$	[kW]	Power
$Pn_{1,2}$	[kW]	Rated power
$Pr_{1,2}$	[kW]	Power demand
P_T	[kW]	Overall thermal capacity
$P_{TFAN...}$	[kW]	Thermal capacity with the contribution of forced ventilation
P_{TSR}	[kW]	Thermal capacity inclusive of contribution from cooling coil
$P_{TMCRA...}$	[kW]	Thermal capacity inclusive of contribution from air/oil exchanger cooling unit
$P_{TMCRW...}$	[kW]	Thermal capacity inclusive of contribution from water/oil exchanger cooling unit
$Rc_{1,2}$	[kN]	Calculated radial force
$Rn_{1,2}$	[kN]	Permissible overhung load
t_a	[°C]	Ambient temperature
t_s	[°C]	Surface temperature
t_o	[°C]	Oil temperature
η	–	Efficiency

$_1$ value applies to input shaft

$_2$ value applies to output shaft

2 GENERAL DESIGN FEATURES

Gear units of the HDP and HDO series make optimum use of advanced design features, to offer:
- Top torque density
- Superior performance
- Silent and vibration-free operation
- Total ruggedness and reliability
- Lifetime calculation in accordance with the applicable ISO and AGMA standards
- Extensive customisation through a wide range of options offered in the catalogue

3 ALLOWED TEMPERATURE LIMITS

Symbols	Description / Condition	Value (*)	
		Synthetic Oil	Mineral Oil
t_a	Ambient temperature		
$t_{au\ min}$	Minimum operating ambient temperature	**-30°C**	**-10°C**
$t_{au\ Max}$	Maximum operating ambient temperature	**+50°C**	**+40°C**
$t_{as\ min}$	Minimum storage ambient temperature	**-40°C**	**-10°C**
$t_{as\ Max}$	Maximum storage ambient temperature	**+50°C**	**+50°C**
t_s	Surface temperature		
$t_{s\ min}$	Minimum gearbox surface temperature starting with partial load (#)	**-25°C**	**-10°C**
$t_{sc\ min}$	Minimum gearbox surface temperature starting with full load	**-10°C**	**-5°C**
$t_{s\ Max}$	Maximum casing surface temperature during continuous operation (measured next to the gearbox input)	**+100°C**	**+100°C** (@)
t_o	Oil temperature		
$t_{o\ Max}$	Maximum oil temperature during continuous operation	**+95°C**	**+95°C** (@)

(*) = Refer to the table “Selection of the optimal oil viscosity” for further information about minimum and maximum values of different oil viscosity and for using hydraulic circuits. For values of t_a < -20°C and t_s, t_o > 80 °C, choose (as permitted in the product configuration stage) the sealing type of the most suitable material to the type of application. If needed contact Bonfiglioli Technical Service.

(@) = Continuous operation it is not advised if t_s and t_o range is 80°C to 95 °C.

(#) = For full load start-up it is recommended to ramp-up and provide for greater absorption of the motor. If needed, contact Bonfiglioli Technical Service.

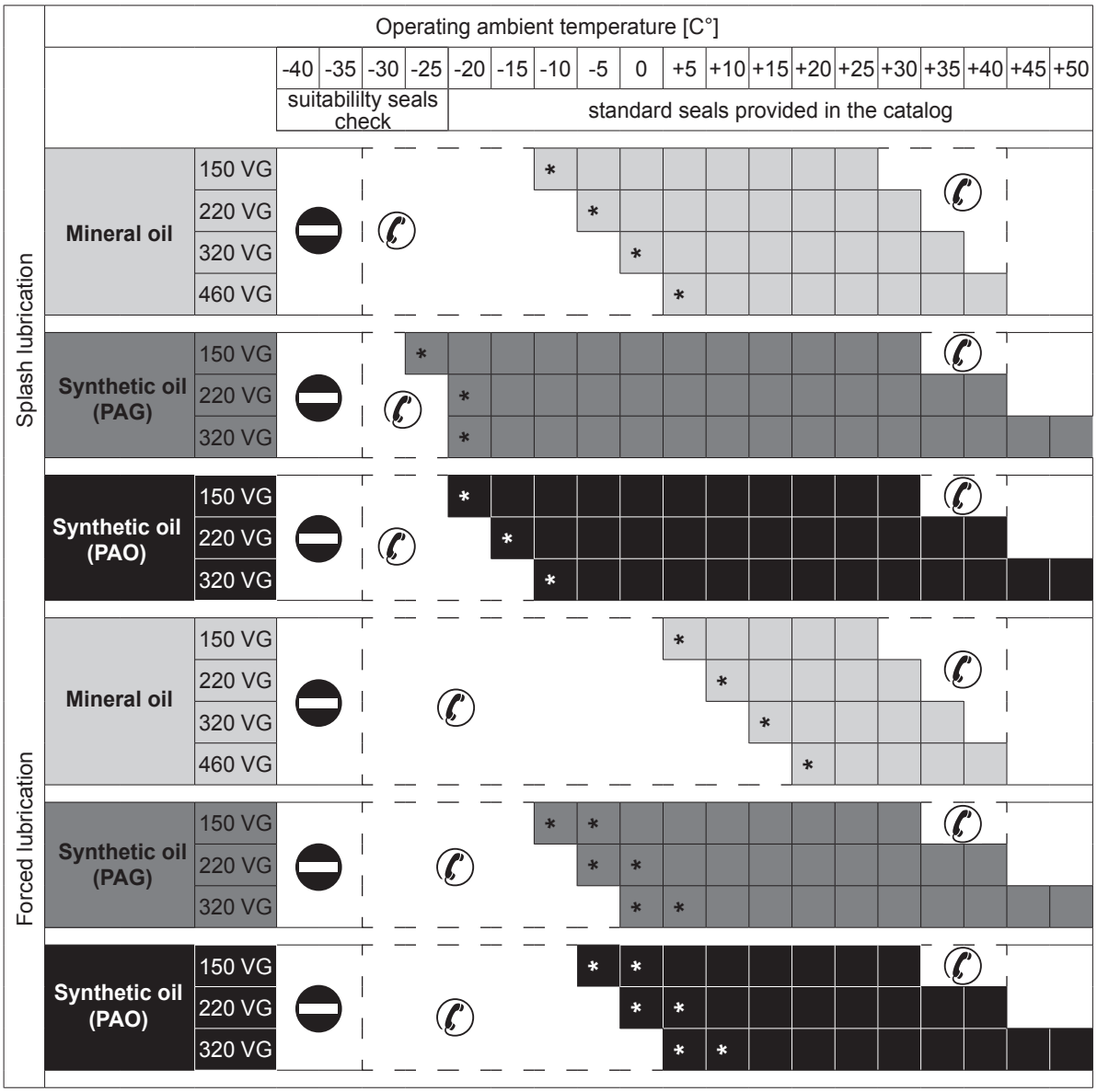
4 INSTALLATION

The following installation instructions must be observed:
• Make sure that the gearbox is correctly secured to avoid vibrations.
If shocks or overloads are expected, install hydraulic couplings, clutches, torque limiters, etc.
• Before the eventual painting, the machined surfaces and the outer face of the oilseals must be protected to prevent paint drying out the rubber and jeopardising the oil-seal function.
• Components to be keyed on to the gearbox output shafts should be machined to ISO H7 tolerances to prevent mating surfaces jamming and causing irreparable damage to the gearbox during installation. Suitable pullers and extractors should also be used to fit and remove such components. These should be properly secured to the threaded hole at the end of the shafts.
The customer is required to verify the mating on the output shaft defining appropriate tolerances according to the torque to be transmitted.
• Mating surfaces must be cleaned and treated with suitable protective products before mounting to avoid oxidation and, as a result, seizure of parts.
• Prior to putting the gear unit into operation make sure that the equipment that incorporates the same complies with the current revision of the Machines Directive 2006/42/CE.
• Before starting up the machine, make sure that oil level conforms to the mounting position specified for the gear unit and viscosity is suitable for the specific application.
• For outdoor installation provide adequate guards in order to protect the drive from rainfalls as well as direct sun radiation.

5 LUBRICATION

Refer to the User's Manual available at www.bonfiglioli.com for indications about checking the oil level and its replacement.
Do not mix mineral oils with synthetic oils and/or different brands.
However, oil level should be checked at regular intervals and topped up as required.
Check monthly if unit operates under intermittent duty, more frequently if duty is continuous.

5.1 Selection of the optimal oil viscosity (data relating to Shell Oils)



Recommended operating limits

Allowed operating limits.

Forbidden operating limits.

* = It is recommended to ramp-up and to provide for greater absorption of the motor.
If needed and in the event of impulse loads, contact Bonfiglioli Technical Service.

5.2 Lubrication for HDP-HDO series gearboxes

The internal parts of HDP gearboxes are lubricated with a mixed immersion and splash system. Should the output speed be lower than 1 min^{-1} or the input speed greater than 1800 min^{-1}, please contact Bonfiglioli Technical Service for advise.
In mounting position V5, the top bearings in gearbox sizes HDP 60 to HDP 90 are pre-lubricated with grease and fitted with Nilos seals, unless the order specifies a forced lubrication system with mechanical pump (optional variants OP1, OP2) or electric pump (option MOP).
If HDP 100 to 180 gearboxes have to be installed in mounting position V5, with the output shaft vertical, one of the above mentioned forced lubrication systems must be specified. The actual system should be selected on the basis of speed and/or operating conditions.
These gearboxes are supplied without lubricant. It is the customer's responsibility to fill them with the appropriate amount of oil before start-up.

The internal parts of HDO gearboxes are lubricated with a mixed immersion and splash system. Should the output speed be lower than 1 min^{-1} or the input speed greater than 1800 min^{-1}, please contact Bonfiglioli Technical Service for advise.
In mounting position V5, the top bearings in gearbox sizes HDO 71 to HD0 95 are pre-lubricated with grease and fitted with Nilos seals.
If HDO 100 to 180 gearboxes have to be installed in mounting position V5 it is required that the order specifies a forced lubrication system with mechanical pump (optional variants OP1, OP2) or electric pump (option MOP).
Depending on the configuration and mounting position, HDO gearboxes may require one of a number of forced lubrication systems described later in this catalogue.
The gearboxes are supplied without lubricant. It is the customer's responsibility to fill them with the appropriate amount of oil before start-up.

6 STORAGE

Observe the following instructions to ensure correct storage of the products:

- Do not store outdoors, in areas exposed to weather or with excessive humidity.
- Always place boards, wood or other material between the products and the floor. The gearboxes should not have direct contact with the floor.
- In case of long-term storage all machined surfaces such as flanges, shafts and couplings must be coated with a suitable rust inhibiting product (Tectile 506 EH or equivalent). Furthermore gear units must be placed with the fill plug in the highest position and filled up with oil. Before putting the units into operation the appropriate quantity, and type, of oil must be restored.

7 CONDITIONS OF SUPPLY

Gear units are supplied as follows:

- configured for installation in the mounting position specified when ordering;
- tested to manufacturer specifications;
- mating machined surfaces come unpainted;
- nuts and bolts for mounting motors are provided if a flanged motor input is specified.

8 PAINT COATING

HDP gearboxes in sizes 60 to 90 and HDO in sizes 71 to 95 are externally and internally painted in oven hardened epoxy resin and polyester powder paint. The painted (ferrous) surfaces of these gearboxes are protected to at least corrosivity class C2 (UNI EN ISO 12944-2). The colour is RAL 7042 grey. A synthetic top coat may be applied later.
HDP and HDO gearbox sizes 100 to 180 are internally and externally spray painted with an epoxy primer, and then externally painted on completion of assembly. These gearboxes are protected to at least corrosivity class C3 (UNI EN ISO 12944-2). The colour is RAL 7042 grey.

9 SERVICE FACTOR

Service factors listed here under are empirical values based on AGMA and ISO specifications as well as our experience for use in common applications. They apply for state of the art-designed driven machines and normal operating conditions.

Application	≤ 10 hours/day	> 10 hours/day
AGITATORS, MIXERS		
Pure liquids	1.25	1.50
Liquids and solids	1.25	1.50
Liquids - variable density	1.50	1.75
BLOWERS		
Centrifugal	1.00	1.25
Lobe	1.25	1.50
Vane	1.25	1.50
CLARIFIERS	1.00	1.25
CLAY WORKING MACHINERY		
Brick press	1.75	2.00
Briquette machine	1.75	2.00
Pug mill	1.25	1.50
COMPACTORS	2.00	2.00
COMPRESSORS		
Centrifugal	1.25	1.50
Lobe	1.25	1.50
Reciprocating, multi-cylinder	1.50	1.75
Reciprocating, single-cylinder	1.75	2.00
CONVEYORS - GENERAL PURPOSE		
Uniformly loaded or fed	1.15	1.25
- Heavy duty		
Not uniformly fed	1.25	1.50
- Reciprocating or shaker	1.75	2.00
CRANES (*)		
Dry dock		
Main hoist	2.50	2.50
Auxiliary hoist	2.50	3.00
Boom hoist	2.50	3.00
Slewing Drive	2.50	3.00
Traction Drive	3.00	3.00

Application	≤ 10 hours/day	> 10 hours/day
Trolley Drive		
Gantry Drive	3.00	3.00
Traction Drive	2.00	2.00
Industrial duty		
Main hoist	2.50	3.00
Auxiliary hoist	2.50	3.00
Bridge and	3.00	3.00
Trolley travel	3.00	3.00
CRUSHER		
Stone or ore	2.00	2.00
DREDGES		
Conveyors	1.25	1.50
Cutter head drives	2.00	2.00
Screen drives	1.75	2.00
Stackers	1.25	1.50
Winches	1.25	1.50
ELEVATORS		
Bucket	1.25	1.50
Centrifugal discharge	1.15	1.25
Escalators	1.15	1.25
Freight	1.25	1.50
Gravity discharge	1.15	1.25
EXTRUDERS		
General	1.50	1.50
Plastics		
Variable speed drive	1.50	1.50
Fixed speed drive	1.75	1.75
Rubber		
Continuous screw operation	1.75	1.75
Intermittent screw operation	1.75	1.75
FANS		
Centrifugal	1.00	1.25
Cooling towers	2.00	2.00

(*) - Indication of service factor based on FEM 1.001 classification available upon request. Consult factory.

- Hoists for passengers lift: charted **values not applicable**. Consult factory.

Application	≤ 10 hours/day	> 10 hours/day
Forced draft	1.25	1.25
Induced draft	1.50	1.50
Industrial and mine	1.50	1.50
FEEDERS		
Apron	1.25	1.50
Belt	1.15	1.50
Disc	1.00	1.25
Reciprocating	1.75	2.00
Screw	1.25	1.50
FOOD INDUSTRY		
Dough mixer	1.25	1.50
Meat grinders	1.25	1.50
Slicers	1.25	1.50
GENERATORS AND EXCITERS	1.00	1.25
HAMMER MILLS	1.75	2.00
HOISTS (*)		
Heavy duty	1.75	2.00
Medium duty	1.25	1.50
Skip hoist	1.25	1.50
LUMBER INDUSTRY		
Barkers - spindle feed	1.25	1.50
Main drive	1.75	1.75
Conveyors - burner	1.25	1.50
Main or heavy duty	1.50	1.50
Main log	1.75	2.00
Re-saw, merry-go-round	1.25	1.50
Conveyors		
Slab	1.75	2.00
Transfer	1.25	1.50
Chains		
Floor	1.50	1.50
Green	1.50	1.75
Cut-off saws		
Chain	1.50	1.75
Drag	1.50	1.75
Debarking drums	1.75	2.00
Feeds		
Edger	1.25	1.50
Gang	1.75	1.75
Trimmer	1.25	1.50
Log deck	1.75	1.75

Application	≤ 10 hours/day	> 10 hours/day
Log hauls - incline - weel type	1.75	1.75
Log turning devices	1.75	1.75
Planer feed	1.25	1.50
Planer tilting hoists	1.50	1.50
Rolls - live-off brg. - roll cases	1.75	1.75
Sorting table	1.25	1.50
Tipple hoist	1.25	1.50
Transfers		
Chain	1.50	1.75
Craneways	1.50	1.75
Tray drives	1.25	1.50
Veneer lathe drives	1.25	1.50
METAL MILLS		
Slab pushers	1.50	1.50
Shears	2.00	2.00
Wire drawing	1.25	1.50
Wire winding machine	1.50	1.50
MILLS, ROTARY TYPE		
Ball and rod	2.00	2.00
Spur ring gear	2.00	2.00
Helical ring gear	1.50	1.50
Direct connected	2.00	2.00
Cement kilns	1.50	1.50
Dryers and coolers	1.50	1.50
MIXERS		
Concrete	1.50	1.75
PAPER MILLS		
Agitator (mixer)	1.50	1.50
Agitator for pure liquors	1.25	1.25
Barking drums	2.00	2.00
Barkers - mechanical	2.00	2.00
Beater	1.50	1.50
Breaker stack	1.25	1.25
Calendar	1.25	1.25
Chipper	2.00	2.00
Chip feeder	1.50	1.50
Coating rolls	1.25	1.25
Conveyors		
Chip, bark, chemical	1.25	1.25
Log (including slab)	2.00	2.00

(*) - Indication of service factor based on FEM 1.001 classification available upon request. Consult factory.

- Hoists for passengers lift: charted **values not applicable**. Consult factory.

Application	≤ 10 hours/day	> 10 hours/day
Couch rolls	1.25	1.25
Cutter	2.00	2.00
Cylinder molds	1.25	1.25
Dryers		
Paper machine	1.25	1.25
Conveyors type	1.25	1.25
Embosser	1.25	1.25
Extruder	1.50	1.50
Jordan	1.50	1.50
Kiln drive	1.50	1.50
Paper rolls	1.25	1.25
Platter	1.50	1.50
Presses - felt and suction	1.25	1.25
Pulper	2.00	2.00
Pumps - vacuum	1.50	1.50
Reel (surface type)	1.25	1.25
Screens		
Chip	1.50	1.50
Rotary	1.50	1.50
Vibrating	2.00	2.00
Size press	1.25	1.25
Super calendar	1.25	1.25
Thickener (AC motor)	1.50	1.50
Thickener (DC motor)	1.25	1.25
Washer (AC motor)	1.50	1.50
Washer (DC motor)	1.25	1.25
Wind and unwind stand	1.25	1.50
Winders (surface type)	1.25	1.25
Yankee dryers	1.25	1.25
PLASTICS INDUSTRY		
Batch mixers	1.75	1.75
Continuous mixers	1.50	1.50
Compounding mill	1.25	1.25
Calendars	1.50	1.50
Secondary processing		
Blow molders	1.50	1.50
Coating	1.25	1.25
Film	1.25	1.25
Pre-plasticizers	1.50	1.50
Rods	1.25	1.25

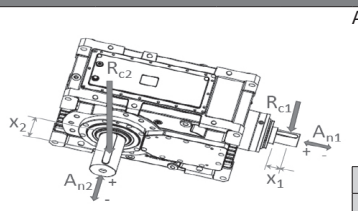
Application	≤ 10 hours/day	> 10 hours/day
Sheet	1.25	1.25
Tubing	1.25	1.50
PUMPS		
Centrifugal	1.15	1.25
Reciprocating		
Single acting, three or more cylinders	1.25	1.50
Double acting, two or more cylinders	1.25	1.50
Rotary		
Gear type	1.15	1.25
Lobe	1.15	1.25
Vane	1.15	1.25
RUBBER INDUSTRY		
Intensive internal mixer		
Batch mixers	1.75	1.75
Continuous mixers	1.50	1.50
Refiner - two rolls	1.50	1.50
Calendars	1.50	1.50
SAND MULLER	1.25	1.50
SEWAGE DISPOSAL EQUIPMENT		
Aerators	2.00	2.00
Chemical feeders	1.25	1.25
Dewatering screens	1.50	1.50
Scum breakers	1.50	1.50
Slow or rapid mixers	1.50	1.50
Sludge collectors	1.25	1.25
Thickeners	1.50	1.50
Vacuum filters	1.50	1.50
SCREENS		
Air washing	1.00	1.25
Rotary - stone or gravel	1.25	1.50
Travelling water intake	1.00	1.25
SUGAR INDUSTRY		
Beet slicer	2.00	2.00
Cane knives	1.50	1.50
Crushers	1.50	1.50
Mills (low speed end)	1.75	1.75
TEXTILE MACHINERY	1.25	1.50

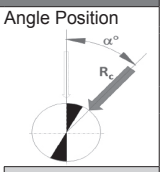
SELECTING THE GEAR UNIT

Selection of the the Atex product must fit through the compilation of this selection form. For a safe selection it is strongly recommended to rely on the long time experience of the Bonfiglioli Technical Service Dept.

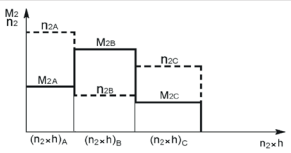
Bonfiglioli Forever Forward	**TECHNICAL DATA REQUIRED FOR THE SELECTION OF HDP - HDO**	Nr:
		Date:
		Rev_ Date:

		A)	***GENERAL DATA***					
#	1		Company / Customer					
#	2		Contact					
#	3		Branch / Distributor					
#	4		Order quantity					
	5		Delivery time					
		B)	***ELECTRIC MOTOR***					
	6		Motor Type					
#	7	P_{n1}	Rated motor power		[kW]			
#	8	P_{r1}	Motor power demand		[kW]			
	9	n_1	Input speed		[min^{-1}]			
	10		Pole number					
	11		Motor mounting: B3 - B5 - B14					
		C_1)	***GEARBOX***			***C_2)***	***ATEX CONDITION [GROUPII] - 2014/34/EU***	
#	12		Gearbox configuration					
#	13	i	Gear ratio			Category: [**2** = standard / **3** = special]		
#	14	n_2	Output speed		[min^{-1}]	Atmosphere: [**G** = gas / **D** = dust]		
#	15	M_{r2}	Output torque demand		[Nm]	Zone: [**1 - 21** / **2 - 22**]		
#	17	f_S	Service factor required			Temperature class: [T4 / 135°C]		
	18		Rotation of the output shaft [front view]:		**CW**		**CCW**	
#	19	L_{10H}	Bearings lifetime		[h]			
	20		Gears lifetime		[h]			
	21	SF_{min}	Safety for tooth root stress		standard reference (ISO preferred)			
	22	SH_{min}	Safety for flank pressure		standard reference (ISO preferred)			
		D)	***ADDITIONAL LOADS***					
	23	R_{c2}	Radial load on output shaft		[N]			
	24	x_2	Load application distance from shaft shoulder		[mm]			
	25	α_{Rc2}	Angle of application of the output Radial load		[° ' "]			
	26	R_{c1}	Radial load on input shaft		[N]			
	27	x_1	Load application distance from shaft shoulder		[mm]			
	28	α_{Rc1}	Angle of application of the input Radial load		[° ' "]			
	29	A_{n2}	Thrust load on output shaft (+ / -)		[N]			
	30	A_{n1}	Thrust load on intput shaft (+ / -)		[N]			





+ =Push
- = Pull

		E)	***APPLICATION***					
#	31		Type of application					
	32		Duty cycle	Time phase %	Time phase hours	Gearbox output torque [Nm]	Gearbox output speed [min^{-1}]	
				,,,,	,,,,			
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	33		Notes about Duty Cycle:					
			Duty type	**S1**	**S2**	**S3**	**S4-S8**	
	34	v_A	Ambient air velocity	[m/s]	≤ 0.5	> 0.5 ≤ 1.4	> 1.4	
#	35	t_a	Ambient temperature range	[°C]				
	36		Altitude a.s.l.	[m]				
	37		Rating according FEM class	T-	L-	M-		
		F)	***OPTIONS OR ADDITIONAL REQUESTS***					
	38		Lubrification					
	39		Supplementary cooling systems					
	40		Paint coating					
	41		To specific requests for testing					
		G)	***NOTES***					
	42		Notes and additional Customer requirements:					
#	43		**PLP number if present for Special Gearbox**					

Mandatory for the selection

The selection of the drive unit can only be optimized upon knowing both the engineering and the environmental conditions the gearbox will operate into.

10 ENGINEERING SELECTION

1. First determine the gear ratio:

$$i = \frac{n_1}{n_2}$$

2. Calculate the power $\mathbf{P_{r1}}$ required at the input shaft:

$$P_{r1} = \frac{M_{r2} \times n_2}{9550 \times \eta}$$

	η
2x 	0.96
3x 	0.94
4x 	0.92

3. Determine the applicable service factor $\mathbf{f_s}$ and the adjusting factor $\mathbf{f_m}$ depending on prime mover:

	f_m
Electric motor Hydraulic motor Turbine	1.00
Multi-cylinder internal combustion engine	1.25
Single cylinder internal combustion engine	1.50

4. Use the rating charts to select the gear unit with the gear ratio nearest to that calculated, and with a rated power $\mathbf{P_{n1}}$, so that:

$$P_{n1} \geq P_{r1} \times f_s \times f_m$$

11 VERIFICATIONS

11,1 SHOCK LOADING

For intermittent duty, impact/shock loading applications or start-ups under full load or with high inertial loads, make sure the following condition is satisfied for momentary peak torque $\mathbf{M_p}$ generated during the operating cycle:

$$M_p \leq M_{n2ref} \times f_p$$

Peaks/hour		f_p				
		1	**2 ... 10**	**11 ... 50**	**51 ... 100**	**> 100**
Drive	Constant direction	2.0 1.8 (HDO 71…95 3x) 1.6 (HDO 71…95 4x)	1.6	1.3	1.1	1.0
	Reversals	1.4 1.3 (HDO 71…95 3x) 1.1 (HDO 71…95 4x)	1.1	0.9	0.8	0.7

For configuration S (output shaft with shrink disc), use the following values to verify applicability.

Peaks/hour		f_p		
		1 ... 50	**51 ... 100**	**> 100**
Drive	Constant direction	1.3 1.1 (HDP 80) 1 (HDO 81) 1.2 (HDO 95)	1.1 1 (HDO 81)	1.0
	Reversals	0.9 0.8 (HDP 80 - HDO 95) 0.7 (HDO 81)	0.8 0.7 (HDO 81)	0.7

If the above condition is not satisfied, consider installing a torque limiter or selecting a gear unit of the next size up.

11,2 MOTOR MOUNTING

Verify that the appropriate motor adapter is available for the selected gear unit. See sections 15.5 and 26.6.
Because of standardisation, the rated power of the electric motor selected might be greater than power $\mathbf{P_{r1}}$ actually requested by the application. Make sure that the electric motor will never develop the extra power at any stage of the operating cycle. If you have any doubts about the validity of the application data, or uncertainty concerning the actual load pattern, install a torque limiting device or proportionally revise the applicable service factor.

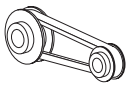
11,3 BACKSTOP DEVICE

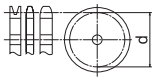
If the gear unit is specified with a backstop, verify the load capacity of the device at sections 15.6.3 and 26.7.3 of this catalogue and make sure the torque M_{1MAX} is never exceeded in operation.

11,4 CALCULATING THE RESULTING OVERHUNG LOAD

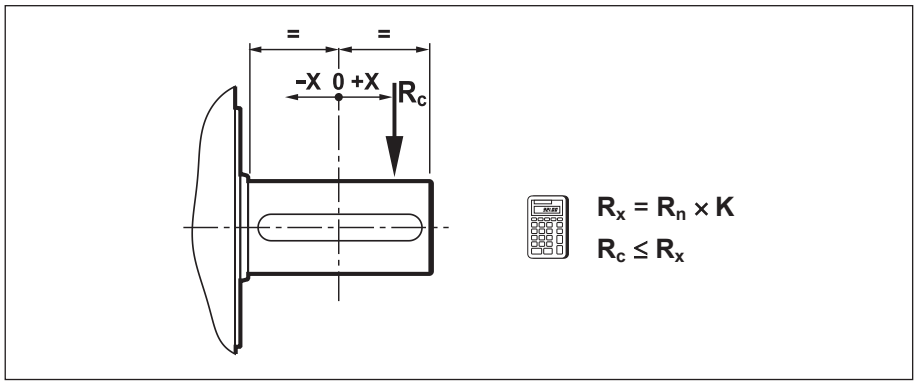
External transmissions keyed onto input and/or output shaft generate loads that act radially onto same shaft.
Resulting shaft loading must be compatible with both the bearing and the shaft capacity.
Namely shaft loading ($\mathbf{R_{c1}}$ for input shaft, $\mathbf{R_{c2}}$ for output shaft), must be equal or lower than admissible overhung load capacity for shaft under study ($\mathbf{R_{x1}}$ for input shaft, $\mathbf{R_{x2}}$ for output shaft). OHL capability listed in the rating chart section.
The procedure described above applies to both the input shaft and the output shaft, but care must be taken to apply factor $\mathbf{K_1}$ or factor $\mathbf{K_2}$ to suit the particular shaft.
The load generated by an external transmission can be calculated, to a good approximation, by the following equation:

$$\mathbf{R_c = \frac{2000 \times M \times K_r}{d}}$$

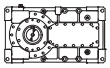
$\mathbf{K_r = 1}$	
$\mathbf{K_r = 1.25}$	
$\mathbf{K_r = 1.5 - 2.0}$	

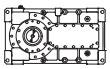
M [Nm]	
d [mm]	

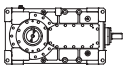
11,5 OVERHUNG LOADING VERIFICATION



The $Rn_{1\ max}$ values listed in the table are the maximum permissible overhung loads; these loads may have to be reduced in certain applications.
For an exact value, please contact Bonfiglioli's Technical Service.

	i =	$Rn_{1\ max}$ [kN]	K_1 x [mm] =												
			-100	-75	-50	-25	0	25	50	75	100	150	200	250	300
HDP 60 2	7.1 ... 15.2	4.5	—	—	—	1.29	1.00	0.82	0.69	0.60	0.53	—	—	—	—
	17.3 … 19.4	3.0	—	—	—	1.28	1.00	0.82	0.70	0.60	0.53	—	—	—	—
HDP 60 3	22.7 … 49.1	3.1	—	—	—	1.29	1.00	0.82	0.69	0.60	0.53	—	—	—	—
	56.6 … 98.4	2.1	—	—	—	1.33	1.00	0.80	0.67	0.57	0.50	—	—	—	—
HDP 70 2	8.0 … 17.7	4.5	—	—	—	1.29	1.00	0.82	0.69	0.60	0.53	—	—	—	—
	19.4 … 22.6	3.0	—	—	—	1.28	1.00	0.82	0.70	0.60	0.53	—	—	—	—
HDP 70 3	25.5 … 57.0	3.1	—	—	—	1.29	1.00	0.82	0.69	0.60	0.53	—	—	—	—
	63.7 … 114.4	2.1	—	—	—	1.33	1.00	0.80	0.67	0.57	0.50	—	—	—	—
HDP 80 2	8.1 … 14.6	5.0	—	—	1.53	1.21	1.00	0.85	0.74	0.66	0.59	0.49	—	—	—
	15.5 … 22.6	5.5	—	—	—	1.24	1.00	0.84	0.72	0.63	0.56	0.41	—	—	—
HDP 80 3	25.8 …75.2	5.8	—	—	—	1.26	1.00	0.83	0.71	0.62	0.53	0.39	—	—	—
	76.4 … 111.4	3.0	—	—	—	1.29	1.00	0.82	0.69	0.54	0.44	0.32	—	—	—
HDP 90 2	7.9 … 13.6	6.3	—	—	1.48	1.19	1.00	0.86	0.76	0.67	0.61	0.51	—	—	—
	15.8 … 22.4	6.3	—	—	1.48	1.19	1.00	0.86	0.76	0.67	0.61	0.51	—	—	—
HDP 90 3	25.4 … 73.3	6.1	—	—	1.45	1.18	1.00	0.87	0.76	0.68	0.62	0.52	—	—	—
	77.8 … 110.1	3.7	—	—	—	1.22	1.00	0.85	0.73	0.61	0.50	0.37	—	—	—
HDP 100 2	7.4 … 21.8	11.1	—	—	1.35	1.15	1.00	0.89	0.80	0.72	0.66	0.56	0.49	—	—
HDP 100 3	22.8 …50	6.3	—	—	1.48	1.19	1.00	0.86	0.76	0.67	0.61	0.51	—	—	—
	55.5 … 107.8	6.9	—	—	1.54	1.21	1.00	0.85	0.74	0.65	0.59	0.49	—	—	—
HDP 100 4	110.6 … 246.9	2.1	—	—	—	1.18	1.00	0.87	0.76	0.68	0.62	—	—	—	—
	286.4 … 507.9	2.7	—	—	—	1.25	1.00	0.83	0.71	0.63	0.56	—	—	—	—
HDP 110 2	8.1 … 25.0	11.1	—	—	1.35	1.15	1.00	0.89	0.80	0.72	0.66	0.56	0.49	—	—
HDP 110 3	24.9 … 54.5	6.3	—	—	1.48	1.19	1.00	0.86	0.76	0.67	0.61	0.51	—	—	—
	60.7 …123.5	6.9	—	—	1.54	1.21	1.00	0.85	0.74	0.65	0.59	0.49	—	—	—
HDP 110 4	120. … 214.2	2.1	—	—	—	1.18	1.00	0.87	0.76	0.68	0.62	—	—	—	—
	248.6 … 499.4	2.7	—	—	—	1.25	1.00	0.83	0.71	0.63	0.56	—	—	—	—

	i =	$Rn_{1\ max}$	K_1												
		[kN]	x [mm] =												
			-100	**-75**	**-50**	**-25**	**0**	**25**	**50**	**75**	**100**	**150**	**200**	**250**	**300**
HDP 120 2	**7.9 … 25.4**	17.8	—	—	1.37	1.16	1.00	0.88	0.79	0.71	0.65	0.55	0.48	—	—
HDP 120 3	**25.8 … 56.1**	6.3	—	—	1.48	1.19	1.00	0.86	0.76	0.67	0.61	0.51	—	—	—
	64.3 … 125.2	6.9	—	—	1.54	1.21	1.00	0.85	0.74	0.65	0.59	0.49	—	—	—
HDP 120 4	**128 … 277.2**	2.1	—	—	—	1.18	1.00	0.87	0.76	0.68	0.62	—	—	—	—
	323.2 … 523.7	2.7	—	—	—	1.25	1.00	0.83	0.71	0.63	0.56	—	—	—	—
HDP 125 2	**8.9 … 25.0**	17.8	—	—	1.37	1.16	1.00	0.88	0.79	0.71	0.65	0.55	0.48	—	—
HDP 125 3	**29.1 … 62.6**	6.3	—	—	1.48	1.19	1.00	0.86	0.76	0.67	0.61	0.51	—	—	—
	72.5 … 123.6	6.9	—	—	1.54	1.21	1.00	0.85	0.74	0.65	0.59	0.49	—	—	—
HDP 125 4	**144.4 … 506.5**	2.1	—	—	—	1.18	1.00	0.87	0.76	0.68	0.62	—	—	—	—
HDP 130 2	**7.3 … 12.3**	28.0	—	1.47	1.27	1.12	1.00	0.90	0.82	0.76	0.69	0.54	0.45	0.38	—
	14.1 … 21.7	22.1	—	—	1.30	1.13	1.00	0.90	0.81	0.74	0.69	0.55	0.45	—	—
HDP 130 3	**21.8 … 48.1**	11.9	—	—	1.28	1.12	1.00	0.90	0.82	0.75	0.69	0.60	0.53	—	—
	56.5 … 108.3	8.1	—	—	1.31	1.13	1.00	0.89	0.81	0.74	0.68	0.58	—	—	—
HDP 130 4	**111.2 … 237.9**	4.8	—	—	1.33	1.14	1.00	0.89	0.80	0.73	0.67	0.57	—	—	—
	274.5 … 534.5	1.8	—	—	—	1.15	1.00	0.88	0.79	0.72	0.65	—	—	—	—
HDP 140 2	**8.4 … 14.4**	28.0	—	1.47	1.27	1.12	1.00	0.90	0.82	0.76	0.69	0.54	0.45	0.38	—
	16.3 … 24.9	22.1	—	—	1.30	1.13	1.00	0.90	0.81	0.74	0.69	0.55	0.45	—	—
HDP 140 3	**25.1 … 56.2**	11.9	—	—	1.28	1.12	1.00	0.90	0.82	0.75	0.69	0.60	0.53	—	—
	65.1 … 124.7	8.1	—	—	1.31	1.13	1.00	0.89	0.81	0.74	0.68	0.58	—	—	—
HDP 140 4	**141.6 … 277.5**	4.8	—	—	1.33	1.14	1.00	0.89	0.80	0.73	0.67	0.57	—	—	—
	315.9 … 495.3	1.8	—	—	—	1.15	1.00	0.88	0.79	0.72	0.65	—	—	—	—
HDP 150 2	**7.9 … 14.1**	31.7	1.60	1.39	1.23	1.10	1.00	0.91	0.84	0.78	0.73	0.61	0.51	0.44	0.38
	15.4 … 19.6	26.4	—	1.43	1.25	1.11	1.00	0.91	0.83	0.77	0.71	0.58	0.48	0.40	—
HDP 150 3	**21.5 … 38.1**	26.6	—	1.44	1.26	1.11	1.00	0.91	0.83	0.77	0.71	0.57	0.47	0.40	—
	43.5 … 77.0	17.4	—	—	1.28	1.12	1.00	0.90	0.82	0.75	0.70	0.61	0.54	—	—
HDP 150 4	**89.0 … 157.8**	10.8	—	—	1.47	1.19	1.00	0.86	0.76	0.68	0.61	0.51	—	—	—
	170.9 … 303.1	6.1	—	—	1.45	1.18	1.00	0.87	0.76	0.68	0.62	0.52	—	—	—
HDP 160 2	**9.0 …15.9**	31.7	1.60	1.39	1.23	1.10	1.00	0.91	0.84	0.78	0.73	0.61	0.51	0.44	0.38
	17.5 … 22.1	26.4	—	1.43	1.25	1.11	1.00	0.91	0.83	0.77	0.71	0.58	0.48	0.40	—
HDP 160 3	**24.4 … 43.1**	26.6	—	1.44	1.26	1.11	1.00	0.91	0.83	0.77	0.71	0.57	0.47	0.40	—
	49.4 … 87.0	17.4	—	—	1.28	1.12	1.00	0.90	0.82	0.75	0.70	0.61	0.54	—	—
HDP 160 4	**101.1 … 178.1**	10.8	—	—	1.47	1.19	1.00	0.86	0.76	0.68	0.61	0.51	—	—	—
	194.1 … 342.2	6.1	—	—	1.45	1.18	1.00	0.87	0.76	0.68	0.62	0.52	—	—	—
HDP 170	BONFIGLIOLI TECHNICAL SERVICE														
HDP 180															

	i =	$Rn_{1\ max}$ [kN]	K_1												
			x [mm] =												
			-100	-75	-50	-25	0	25	50	75	100	150	200	250	300
HDO 71 3	**21.8 … 71.9**	6.1	—	—	—	1.56	1.00	0.70	0.51	0.39	0.33	—	—	—	—
HDO 71 4	**77.0 … 475.4**	4.8	—	—	—	1.88	1.00	0.54	0.38	0.29	0.23	—	—	—	—
HDO 81 3	**25.9 … 71.9**	11.7	—	—	2.61	1.56	1.00	0.69	0.52	0.43	0.36	—	—	—	—
HDO 81 4	**78.3 … 473.3**	7.2	—	—	—	1.76	1.00	0.54	0.38	0.28	0.22	—	—	—	—
HDO 91 3	**18.6 … 66.1**	11.6	—	—	2.17	1.37	1.00	0.79	0.65	0.52	0.43	—	—	—	—
HDO 91 4	**82.0 … 489.3**	5.9	—	—	—	1.54	1.00	0.75	0.53	0.42	0.34	—	—	—	—
HDO 95 3	**21.2 … 72.3**	11.6	—	—	2.17	1.37	1.00	0.79	0.65	0.52	0.43	—	—	—	—
HDO 95 4	**81.6 … 489.7**	5.8	—	—	—	1.55	1.00	0.74	0.53	0.41	0.34	—	—	—	—
HDO 100 2	**5.8 … 13.5**	19.4	—	—	1.88	1.30	1.00	0.81	0.68	0.59	0.51	0.40	0.32	—	—
HDO 100 3	**14 … 17.3**	18.7	—	—	2.23	1.38	1.00	0.78	0.64	0.54	0.45	0.34	—	—	—
	20.2 … 67.5	10.8	—	—	2.23	1.38	1.00	0.78	0.63	0.51	0.43	0.32	—	—	—
HDO 100 4	**70.8 … 139.8**	7.2	—	—	—	1.56	1.00	0.72	0.52	0.40	0.33	—	—	—	—
	160 … 344.2	4.8	—	—	—	1.56	1.00	0.74	0.58	0.46	0.38	—	—	—	—
HDO 110 2	**6.4 … 15.5**	19.4	—	—	1.88	1.30	1.00	0.81	0.68	0.59	0.51	0.40	0.32	—	—
HDO 110 3	**18.9 … 20.9**	18.7	—	—	2.23	1.38	1.00	0.78	0.64	0.54	0.45	0.34	—	—	—
	22 … 77.5	10.8	—	—	2.23	1.38	1.00	0.78	0.63	0.51	0.43	0.32	—	—	—
HDO 110 4	**77.4 … 121.7**	7.2	—	—	—	1.56	1.00	0.72	0.52	0.40	0.33	—	—	—	—
	137.1 … 395	4.8	—	—	—	1.56	1.00	0.74	0.58	0.46	0.38	—	—	—	—
HDO 120 2	**6.6 … 15.5**	22.6	—	—	1.82	1.29	1.00	0.78	0.62	0.51	0.44	0.34	0.28	—	—
HDO 120 3	**17.3 … 24.6**	18.7	—	—	2.23	1.38	1.00	0.78	0.64	0.54	0.45	0.34	—	—	—
	28.3 … 78.6	10.8	—	—	2.23	1.38	1.00	0.78	0.63	0.51	0.43	0.32	—	—	—
HDO 120 4	**87 … 162.2**	7.2	—	—	—	1.56	1.00	0.72	0.52	0.40	0.33	—	—	—	—
	179.7 … 400.6	4.8	—	—	—	1.56	1.00	0.74	0.58	0.46	0.38	—	—	—	—
HDO 125 2	**7.4 … 16.9**	22.6	—	—	1.82	1.29	1.00	0.78	0.62	0.51	0.44	0.34	0.28	—	—
HDO 125 3	**19.2 … 35.8**	18.7	—	—	2.23	1.38	1.00	0.78	0.64	0.54	0.45	0.34	—	—	—
	38.8 … 85.9	10.8	—	—	2.23	1.38	1.00	0.78	0.63	0.51	0.43	0.32	—	—	—
HDO 125 4	**97.0 … 178.0**	7.2	—	—	—	1.56	1.00	0.72	0.52	0.40	0.33	—	—	—	—
	200.3 … 438.0	4.8	—	—	—	1.56	1.00	0.74	0.58	0.46	0.38	—	—	—	—
HDO 130 2	**5.7 … 13.6**	35.8	—	2.21	1.57	1.22	1.00	0.85	0.73	0.62	0.54	0.42	0.35	0.30	—
HDO 130 3	**15.2 … 67.1**	22.6	—	—	1.82	1.29	1.00	0.78	0.62	0.51	0.44	0.34	0.28	—	—
HDO 130 4	**71.5 … 335.6**	10.9	—	—	2.25	1.38	1.00	0.78	0.63	0.50	0.42	0.32	—	—	—
HDO 140 2	**6.6 … 15.7**	35.8	—	2.21	1.57	1.22	1.00	0.85	0.73	0.62	0.54	0.42	0.35	0.30	—
HDO 140 3	**17.7 … 77.3**	22.6	—	—	1.82	1.29	1.00	0.78	0.62	0.51	0.44	0.34	0.28	—	—
HDO 140 4	**82.3 … 386.6**	10.9	—	—	2.25	1.38	1.00	0.78	0.63	0.50	0.42	0.32	—	—	—

	i =	$Rn_{1\ max}$ [kN]	K_1 x [mm] =												
			-100	-75	-50	-25	0	25	50	75	100	150	200	250	300
HDO 150 2	5.5 … 7.0	54.0	2.75	1.91	1.47	1.19	1.00	0.86	0.76	0.67	0.59	0.47	0.40	0.34	0.30
	8.1 … 13.7	41.6	2.75	1.91	1.47	1.19	1.00	0.86	0.76	0.66	0.58	0.46	0.39	0.33	0.29
HDO 150 3	15.6 … 60.8	35.8	—	2.21	1.57	1.22	1.00	0.85	0.73	0.62	0.54	0.42	0.35	0.30	—
HDO 150 4	66.9 … 92.9	18.7	—	—	2.23	1.38	1.00	0.78	0.64	0.54	0.45	0.34	—	—	—
	101.8 … 238.8	10.9	—	—	2.25	1.38	1.00	0.78	0.63	0.50	0.42	0.32	—	—	—
HDO 160 2	7.3 … 7.9	54.0	2.75	1.91	1.47	1.19	1.00	0.86	0.76	0.67	0.59	0.47	0.40	0.34	0.30
	8.9 … 15.4	41.6	2.75	1.91	1.47	1.19	1.00	0.86	0.76	0.66	0.58	0.46	0.39	0.33	0.29
HDO 160 3	17.7 … 68.6	35.8	—	2.21	1.57	1.22	1.00	0.85	0.73	0.62	0.54	0.42	0.35	0.30	—
HDO 160 4	75.9 … 96.3	18.7	—	—	2.23	1.38	1.00	0.78	0.64	0.54	0.45	0.34	—	—	—
	115.2 … 269.7	10.9	—	—	2.25	1.38	1.00	0.78	0.63	0.50	0.42	0.32	—	—	—
HDO 170	BONFIGLIOLI TECHNICAL SERVICE														
HDO 180															

The values for overhung and thrust loads are the maximum permissible values.

	$Rn_{2\ max}$ [kN]	K_2 x [mm] =																$An_{2\ max}$ [kN]
		-100	-75	-50	-25	0	25	50	75	100	150	200	250	300	350	400	450	500	
HDP 60	35.0	—	—	1.20	1.09	1.00	0.74	0.58	0.48	0.41	0.32	—	—	—	—	—	—	—	17.5
HDP 70 HDO 71	40.0	—	1.34	1.20	1.09	1.00	0.77	0.63	0.53	0.46	0.36	0.30	—	—	—	—	—	—	25.0
HDP 80 HDO 81	46.0	1.38	1.26	1.16	1.07	1.00	0.82	0.69	0.59	0.52	0.42	0.35	0.30	—	—	—	—	—	32.5
HDP 90 HDO 91	62.0	1.33	1.23	1.14	1.07	1.00	0.81	0.68	0.58	0.51	0.41	0.34	0.30	—	—	—	—	—	37.5
HDO 95	69.0	1.28	1.20	1.12	1.06	1.00	0.81	0.68	0.58	0.51	0.41	0.34	0.30	0.26	—	—	—	—	38.5
HDP 100 HDO 100	80.0	1.28	1.20	1.12	1.06	1.00	0.81	0.68	0.58	0.51	0.41	0.34	0.30	0.26	—	—	—	—	40.0
HDP 110 HDO 110	86.0	1.27	1.19	1.12	1.06	1.00	0.83	0.71	0.63	0.56	0.45	0.38	0.33	0.29	0.26	0.24	—	—	43.0
HDP 120 HDO 120	107.0	1.25	1.18	1.11	1.05	1.00	0.83	0.71	0.63	0.56	0.45	0.38	0.33	0.29	0.26	0.24	—	—	53.5
HDP 125 HDO 125	130.0	1.20	1.14	1.09	1.04	1.00	0.86	0.75	0.67	0.60	0.50	0.43	0.38	0.33	0.30	0.27	0.25	—	65.0
HDP 130 HDO 130	160.0	1.20	1.14	1.09	1.04	1.00	0.86	0.75	0.67	0.60	0.50	0.43	0.38	0.33	0.30	0.27	0.25	—	80.0
HDP 140 HDO 140	190.0	1.20	1.14	1.09	1.04	1.00	0.86	0.75	0.67	0.60	0.50	0.43	0.38	0.33	0.30	0.27	0.25	—	95.0
HDP 150 HDO 150	200.0	1.15	1.11	1.07	1.03	1.00	0.92	0.85	0.80	0.75	0.66	0.60	0.54	0.49	0.45	0.41	0.38	0.35	100.0
HDP 160 HDO 160	220.0	1.15	1.11	1.07	1.03	1.00	0.92	0.85	0.80	0.75	0.66	0.60	0.54	0.49	0.45	0.41	0.38	0.35	110.0
HDP 170 HDO 170	BONFIGLIOLI TECHNICAL SERVICE																		
HDP 180 HDO 180																			

11,6 SHAFT LOADING

11.6.1 Overhung load on the output shaft

Make sure that the overhung load on the output shaft does not exceed the maximum permitted value for the gearbox in question. The HDB option can be specified only for HDP gearbox sizes 60 through 90 to provide higher capacity bearings to cater for particularly large overhung loads. If external loads exceed the load capacity of even the heavy duty bearings, consider the options of providing external support for the shafts, reducing external load in some other way, or, if necessary, selecting a gearbox of the next size up.

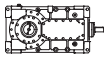
To check overhung load capacity, refer to the figure in section 11.5 and compare the actual overhung load Rc on the shaft with the maximum permissible overhung load **Rx** for the distance from the centre of the shaft at which the load is applied. Maximum permissible overhung load $\mathbf{Rx_2}$ for the output shaft is obtained by multiplying the nominal overhung load $\mathbf{Rn_2}$, as listed in the technical data section, by the load location factor $\mathbf{K_2}$.

Rated overhung loads Rn are conservative values, as they are calculated for the most unfavourable conditions in terms of direction of rotation and angle of application of the force on the shaft.

The following table shows the rated overhung loads that can be applied to solid (LP) output shafts under the following conditions:

- force applied to the centre of the end of the shaft
- no thrust loads
- gearbox service factor ≥ 1.25

Contact Bonfiglioli Riduttori's Technical Service if an exact calculation is required.

	$\mathbf{Rn_2}$ [kN]					
	HDP/HD0 … 2		HDP/HD0 … 3		HDP/HD0 … 4	
n_2	**≤ 150 [min^-1]**		**≤ 75 [min^-1]**		**≤ 25 [min^-1]**	
	Shaft arrangement					
	**LR/RL**	**LL/RR**	**LR/RL**	**LL/RR**	**LL/RR**	**LR/RL**
	**L1/R2**	**L2/R1**	**L1/R2**	**L2/R1**	**L1/R2**	**L2/R1**
HDP 60	22	14	31	22	BONFIGLIOLI TECHNICAL SERVICE	
HDP 70 - HDO 71	18	9	25	16		
HDP 80 - HDO 81	15	8	28	15		
HDP 90 - HDO 91	20	10	36	20		
HDP 100 - HDO 95 - HDO 100	28	13	52	26	80	55
HDP 110 - HDO 110	46	33	61	37	86	72
HDP 120 - HDO 120	62	34	83	54	107	101
HDP 125 - HDO 125	75	48	98	69	130	122
HDP 130 - HDO 130	90	46	119	73	160	137
HDP 140 - HDO 140	85	43	116	73	183	138
HDP 150 - HDO 150	BONFIGLIOLI TECHNICAL SERVICE		109	52	183	132
HDP 160 - HDO 160			88	36	172	110
HDP 170 - HDO 170	BONFIGLIOLI TECHNICAL SERVICE					
HDP 180 - HDO 180						

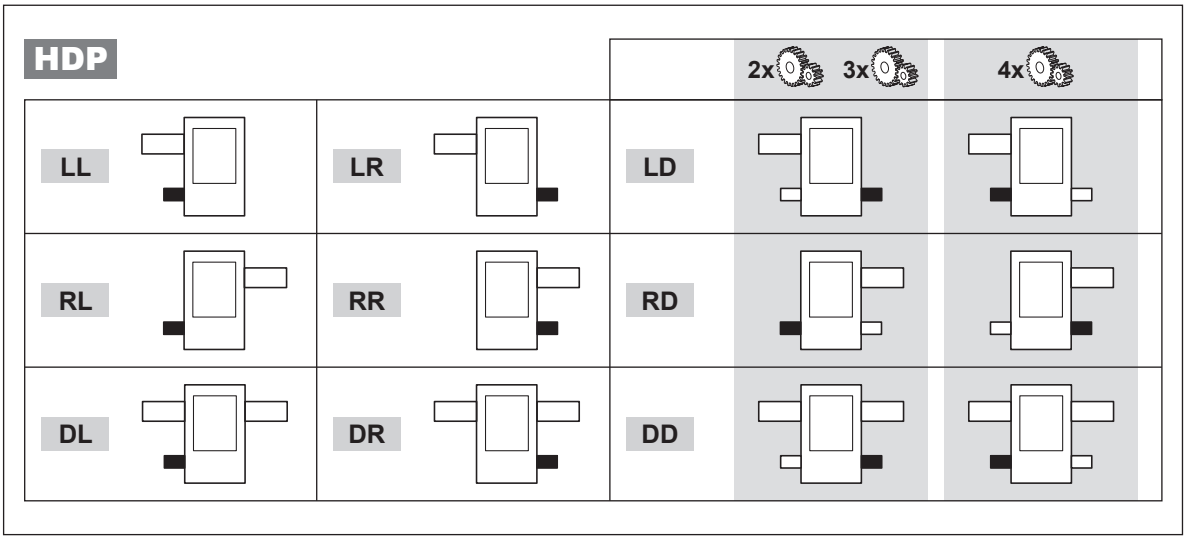
For other load conditions, such as:
- high overhung loads
- thrust loads
- combined overhung and thrust loads
- different output shaft configurations

consult Bonfiglioli Riduttori's Technical Service.

11.6.2 Overhung and thrust loads on input shaft

When checking the overhung load capacity refer to scheme shown at paragraph 11.5. Calculate the admissible overhung load **Rx** that is relevant to the distance the force applies from shaft midpoint and compare this with the force **Rc** that acts onto the shaft. Multiply the nominal radial load $\mathbf{Rn_1}$, as listed in the technical data section, for the load location factor $\mathbf{K_1}$ to get the permissible overhung load $\mathbf{Rx_1}$ for the output shaft.
Rated overhung loads **Rn** are calculated for the most unfavourable condition as far as direction of rotation and the angle the force applies onto the shaft. Catalogue values are therefore conservative, for an in-depth calculation, or in case of HDP with 4 reductions and through-shafts (LD, RD and DD), contact the Technical Service of Bonfiglioli Riduttori.
When a radial force applies a thrust load $\mathbf{An_1 \leq 0.2 \times Rn_1}$ is also permitted.

In the case of HDP gearboxes with through-shafts the maximum permitted overhung load refers to the shaft end highlighted in black below:



If an overhung load is applied to both shaft ends, contact Bonfiglioli Riduttori's Technical Service for advise.

11,7 THERMAL CAPACITY

Thermal power P_T is the maximum power that the gearbox can transmit mechanically, under continuous operation, without the internal temperature rising to a value that could damage the gearbox components.

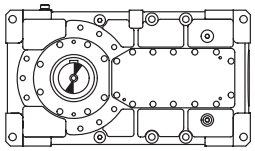
Under the following operating conditions:
- mounting position B3, gearbox connected through a metallic support
- continuous functioning
- installation in large areas (air speed > 1.4 m/s)
- max. installation altitude 1000 m

total thermal capacity values and thermal capacity values inclusive of contributions from auxiliary cooling units are listed in sections 17 and 28.
For other conditions contact Bonfiglioli's Technical Service.

The figure determined must be greater than the Pr_1 power value for the gearbox input shaft. It is therefore important to verify the following formula:

$$P_{T...} \geq Pr_1$$

12 SAMPLE APPLICATIONS



Application data	
n_1 = 1500 min^{-1}	f_s = 1.5
n_2 = 83 min^{-1}	Mr_2 = 7850 Nm
Mounting position:	**B3**
Environmental conditions	
Ambient temperature	= 40°C
Installation in large areas	

Product selection:

a) $i = \frac{n_1}{n_2} = \frac{1500}{83} \approx 18.1$

b) $Pr_1 = \frac{Mr_2 \times n_2}{9550 \times \eta} = \frac{7850 \times 83}{9550 \times 0.96} \approx 71.1$ kW

c) $Pn_1 \geq Pr_1 \cdot f_s \approx 106.6$ kW

→ **HDP 80 2 18.0 LP LR VP B3** [Pn_1 = 108.7 kW @ n_1 = 1500 min^{-1}]

Thermal capacity check:

P_T = 55 kW < Pr_1 = 71.1 kW ⚠

Option 1
- Fan cooling

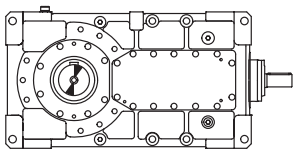
$P_{TFANL/R}$ = 76 kW @ n_1 = 1500 min^{-1}

$P_{TFANL/R} > Pr_1$ ✓ OK

Option 2
- Cooling coil

P_{TSR} = 96 kW @ n_1 = 1500 min^{-1}

$P_{TSR} > Pr_1$ ✓ OK



Application data	
n_1 = 1500 min^{-1}	f_s = 1.5
n_2 = 120 min^{-1}	Mr_2 = 13500 Nm
Mounting position:	**B3**
Environmental conditions	
Ambient temperature	= 40°C
Installation in large areas	

Product selection:

a) $i = \frac{n_1}{n_2} = \frac{1500}{120} = 12.5$ b) $Pr_1 = \frac{Mr_2 \times n_2}{9550 \times \eta} = \frac{13500 \times 120}{9550 \times 0.96} \approx 176.7$ kW c) $Pn_1 \geq Pr_1 \cdot f_s \approx 265.1$ kW

→ **HDO 110 2 12.5 LP L 1 VP B3** [Pn_1 = 329.4 kW @ n_1 = 1500 min^{-1}]

Thermal capacity check:

P_T = 52 kW < Pr_1 = 176.7 kW ⚠

Option 1

- Cooling units with air/oil heat exchanger

P_{TMCRA9} = 184 kW @ n_1 = 1500 min^{-1}

$P_{TMCRA9} > Pr_1$ ✓ OK

Option 2

- Cooling units with water/oil heat exchanger

P_{TMCRW5} = 250 kW @ n_1 = 1500 min^{-1}

$P_{TMCRW5} > Pr_1$ ✓ OK

13 INTRODUCTION TO THE ATEX DIRECTIVES

13.1 Explosive atmosphere

An **explosive atmosphere** for the purposes of Directive 2014/34/EU is defined as a mixture:

a. of **flammable substances**, in the form of gases, vapours, mists or dusts;
b. with **air**;
c. under atmospheric conditions;
d. in which, after ignition, the combustion spreads to the entire unburned mixture (it has to be noted that sometimes, mainly with dust, not always the whole quantity of the combustible material is consumed by the combustion).

An atmosphere, which could become explosive due to local and/or operational conditions is called a **potentially explosive atmosphere**.
It is only in this kind of potentially explosive atmosphere which products falling under the Directive 2014/34/EU are designed for.

13.2 European harmonised atex standards

Directive 2014/34/EU stipulates the minimum safety requirements for products intended for use in explosion risk areas within the member countries of the European Union. The directive also assigns such equipment to **categories,** which are defined by the directive itself.

The following table describes the **zones** into which the user of a plant, in which an explosive atmosphere may occur,is required to divide the equipment application areas.

Zones		Formation frequency of a potentially explosive atmosphere	Type of danger
Gaseous atmosphere G	Dusty atmosphere D		
0	20	Present continuously or for long periods	Permanent
1	21	Likely to occur in normal operation occasionally	Potential
2	22	Not likely to occur in normal operation but if it does occur will persist for short period only	Minimal

BONFIGLIOLI TECHNICAL SERVICE

BONFIGLIOLI RIDUTTORI gear units selected in this catalogue are marked (marking and data on the plate) and are suitable for installation in zones 1, 21, as highlighted in light gray in the above diagram. With the same marking they may of course also be installed in areas (minor risk) 2 and 22, highlighted in dark gray in the above diagram. Contacting our sales department, a special marking on the plate for the same zones 2 and 22 can be requested.
As from 20 April 2016 the ATEX directive 2014/34/EU come into force throughout the entire European Union, and replace existing conflicting national and European laws on explosive atmospheres and the previous directive 94/9/EC.
The directives apply to mechanical, hydraulic and pneumatic equipment.

13.3 Levels of protection for the various categories of equipment

The various categories of equipment must be able to operate in conformity witht he Manufacturer's operational specifications, at certain defined levels of protection.
The availability of BONFIGLIOLI RIDUTTORI products is highlighted in grey.

Protection level	Category		Type of protection	Operating conditions
	Group **I**	Group **II**		
Very high	M1		Two independent means of protection or safety capable of operating even when two independent faults occur	The equipment remains powered and operational even in the presence of an explosive atmosphere
Very high		1	Two independent means of protection or safety capable of operating even when two independent faults occur	The equipment remains powered and operational in zones 0, 1, 2 (G) and/or zones 20, 21, 22 (D)
High	M2		Protection suitable for normal operation and heavy duty conditions	Power to the equipment is shut off in the presence of a potentially explosive atmosphere
High		2	Protection suitable for normal operation and frequent faults or equipment in which malfunction is normal.	The equipment remains powered and operational in zones 1, 2 (G) and/or zones 21, 22 (D)
Normal		3	Protection suitable for normal operation	The equipment remains powered and operational in zones 2 (G) and/ or 22 (D)

BONFIGLIOLI TECHNICAL SERVICE

13.4 Definition of groups

Group I Applies to equipment intended for use underground in parts of mines and those parts of surface installations of such mines, liable to been dangered by fire damp and/or combustible dust.
Group II Applies to equipment intended for use in other places liable to been dangered by explosive atmospheres.

BONFIGLIOLI RIDUTTORI products may not therefore be installed in mines, classified in **Group I** and in **Group II**, category 1.
To summarise, the classification of equipment in to groups, categories and zones is illustrated in the table below, where by the availability of BONFIGLIOLI RIDUTTORI products is highlighted in grey.

Group	I mines, firedamp		II other potentially explosive areas (gas, dust)					
Category	M1	M2	1		2		3	
Atmosphere(1)			G	D	G	D	G	D
Zone			0	20	1	21	2	22
Type of protection gear unit(2)					c, k	c, k	c, k	c, k

BONFIGLIOLI TECHNICAL SERVICE

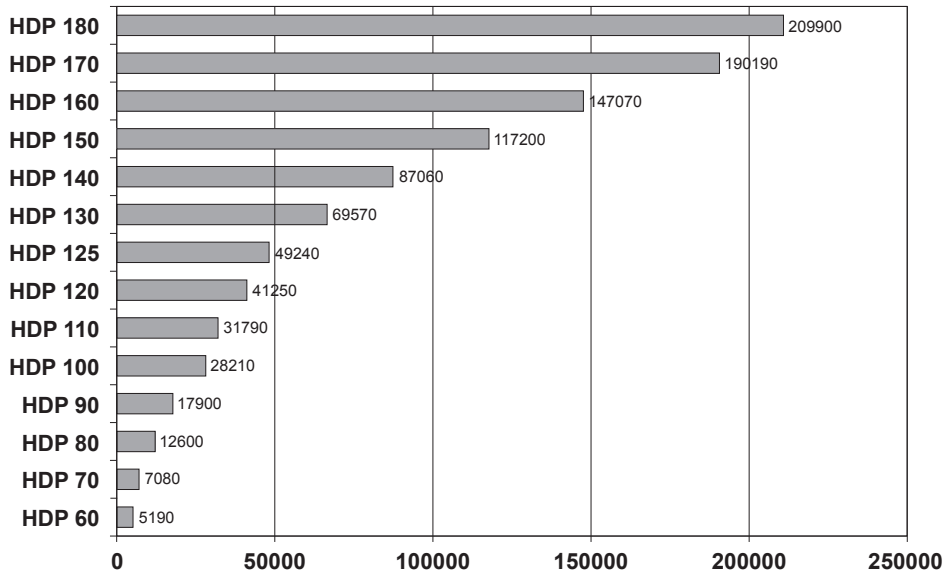
(1) **G** = gas **D** = DUST
(2) as per EN13463

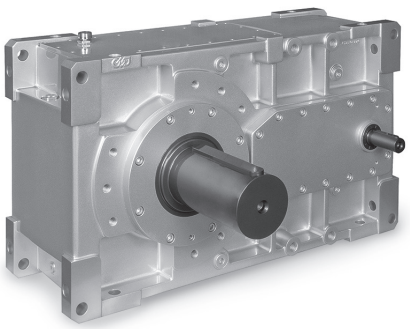
13.5 Declaration of conformity

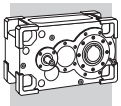
The Declaration of Conformity, is the document which attests to the conformity of the product to Directive 2014/34/EU.
The validity of the Declaration is bound to observance of the instructions given in the User, Installation and Service Manual for safe use of the product throughout its service life.
This can be downloaded from www.bonfiglioli.com where the manual is available in PDF format in a number of languages.
The instructions regarding ambient conditions are of particular importance inasmuch as failure to observe them during operation of the product renders the certificate null and void. In case of doubt regarding the validity of the certificate of conformity, contact the BONFIGLIOLI RIDUTTORI technical department.

14 DESIGN FEATURES

The main construction features of the HDP parallel shaft gear unit range are:
- sizes from HDP 60 to HDP 90 with double and triple reduction.
- sizes from HDP 100 to HDP 180 with double, triple and quadruple reduction.
- Favourable distribution of rated torque values across the entire ratio range.
- Gear ratios in a 12% progression between consecutive values.
- HDP 60 ... HDP 125: Monobloc housing in rigid, spheroidal cast iron, paint coated both internally and externally. Universal mounting thanks to the many machined surfaces. Profiles and dimensions optimised by FEM analysis for superior structural rigidity and low acoustic emissions.
- HDP 130 ... HDP 180: housing in spheroidal cast iron or electrically-welded steel, horizontally split. This design makes maintenance quick and economical. Profiles and dimensions optimised by FEM analysis for superior structural rigidity and low acoustic emissions.
- Casehardened and hardened alloy steel helical gears ground finished and with profile corrected for:
  - more silent operation and smoother transmission of high speed input gears
  - maximum transmissible torque of the lower speed output gear reductions
- Input shafts generally casehardened and ground finished on outer diametre. Output shafts from hardened and tempered alloy steel.





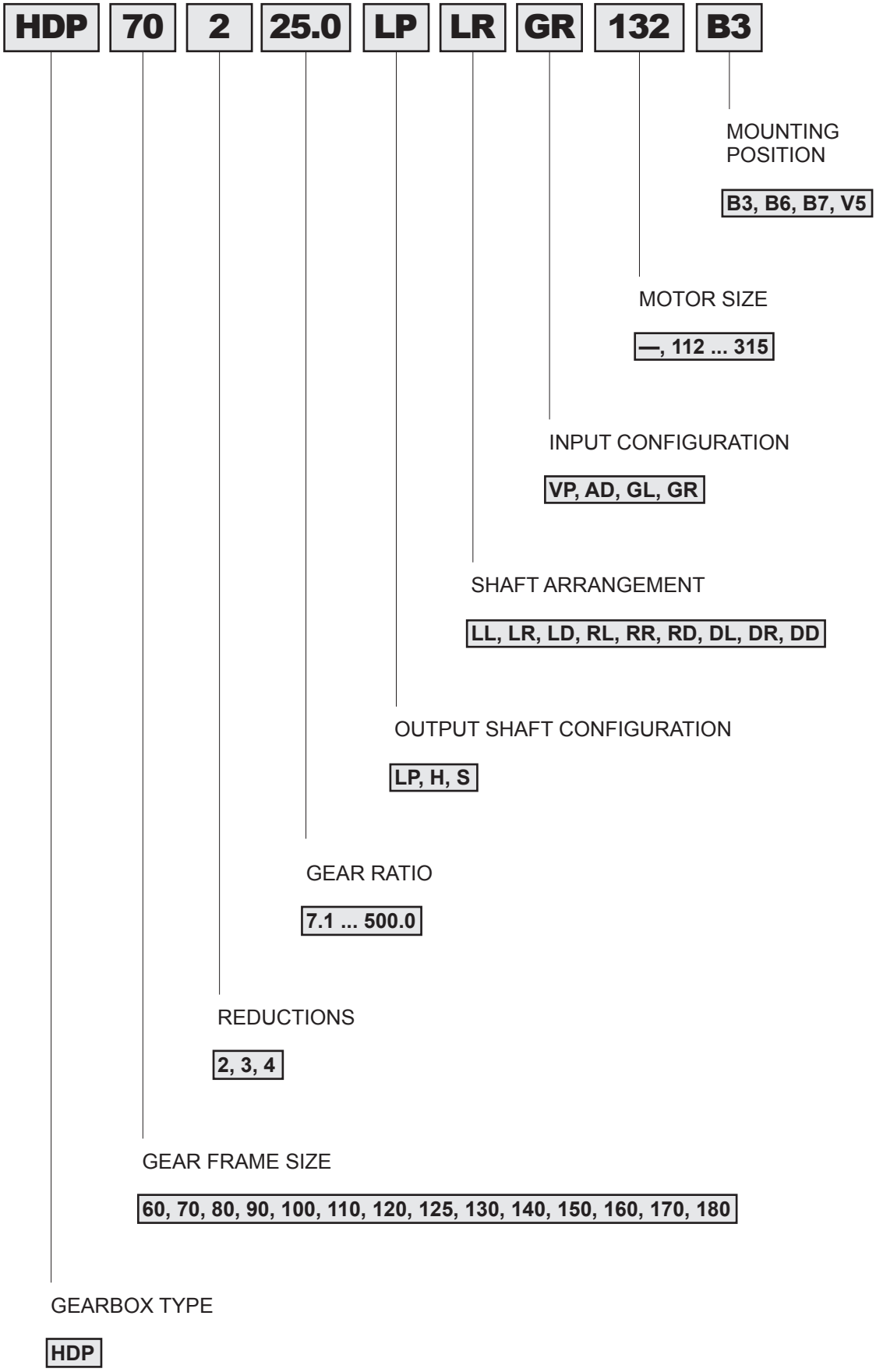


• Input shaft configurations:
- HDP 60 ... HDP 180: solid, single or double-sided shaft with dimensions to UNI/ISO 775-88
- HDP 60 ... HDP 90: direct motor mounting or lantern housing and flexible coupling provision.
- HDP 100 ... HDP 180: motor mounting with bell and housing and flexible coupling.
• Output shaft configurations:
- solid, single or double-sided shaft with dimensions to UNI/ISO 775-88
- hollow shaft with keyway
- hollow shaft with shrink disc
• Heavy duty taper roller bearings or extra large self-aligning roller bearings from the most reputed brands for unparalleled overhung load capacity.

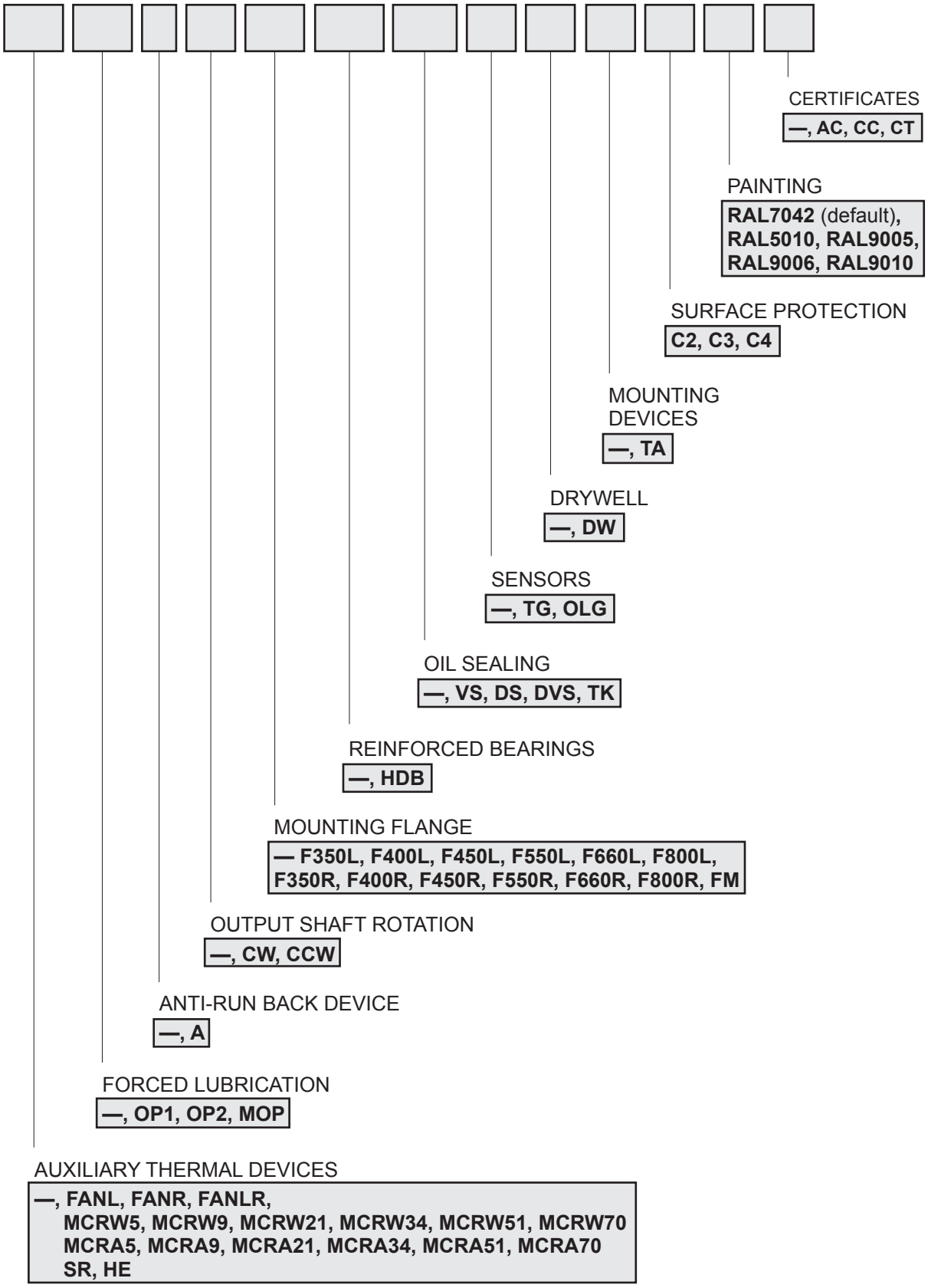
• A wide range of customisation options are available upon request, including:
- auxiliary cooling/heating devices
- forced lubrication systems
- backstop device
- mounting or manifold flanges
- bearings for increased overhung load capacity (only for HDP 60 ... HDP 90)
- seals and gaskets in various types and materials
- sensors
- dry-well device for vertical shaft installations
- fixing elements

15 PRODUCT CONFIGURATIONS

15.1 BASE VARIANTS

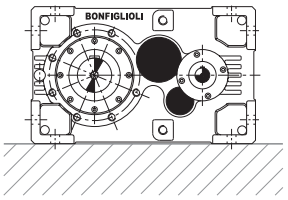
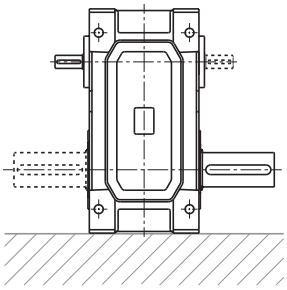
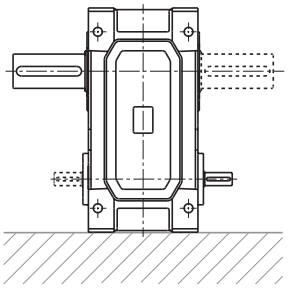
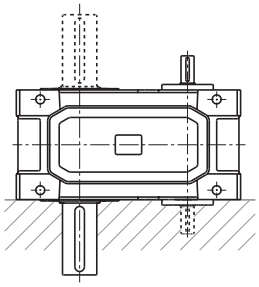


15.2 OPTIONAL VARIANTS



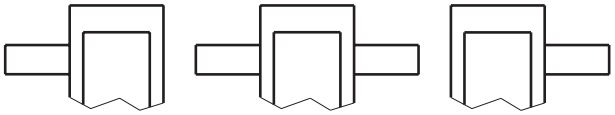
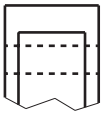
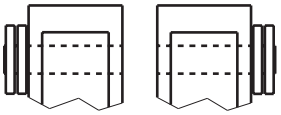
REMARK: The multiple selection of some of the variants may be subject to technical or dimensional constraints. Consult with the factory to have your selection approved.

15.3 MOUNTING POSITION

B3	B6	B7	V5
			
	⛔ HDP 170, HDP 180		

15.4 INPUT AND OUTPUT CONFIGURATION

15.4.1 OUTPUT SHAFT CONFIGURATION

LP	H	S
		

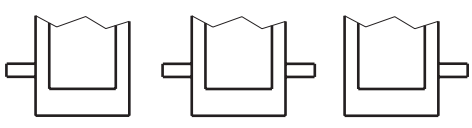
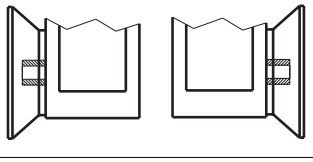
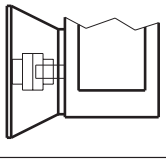
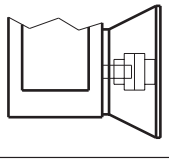
15.4.2 INPUT CONFIGURATION

On the input side the gear unit can be arranged in either one of the configurations described here after:

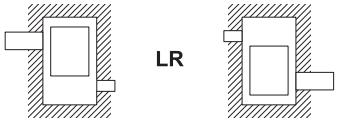
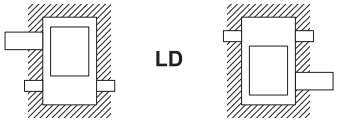
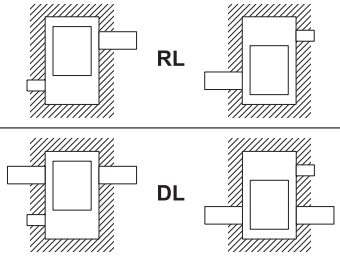
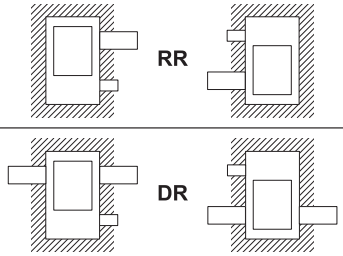
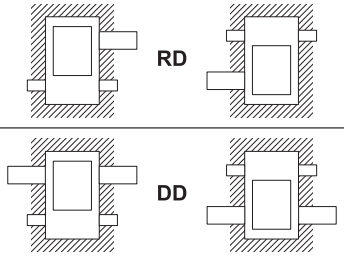
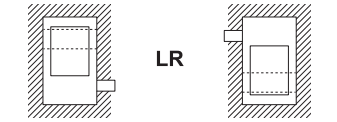
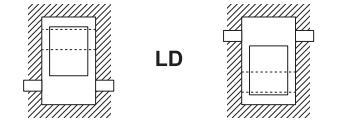
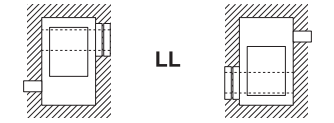
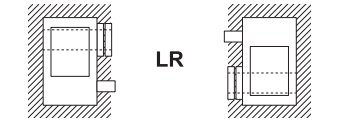
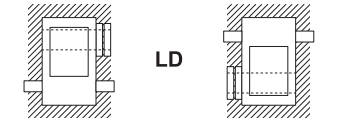
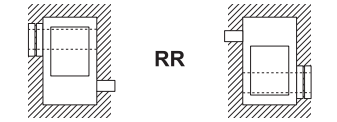
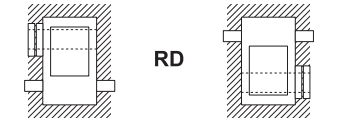
• **Solid input shaft**, single- or double-sided – Specify **VP**

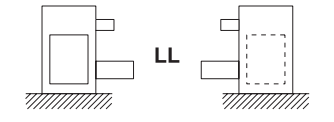
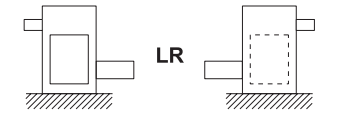
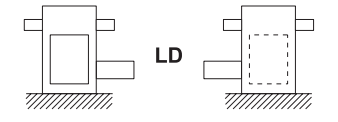
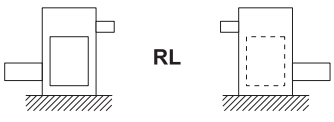
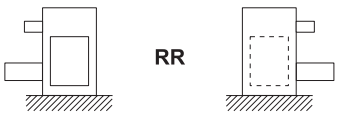
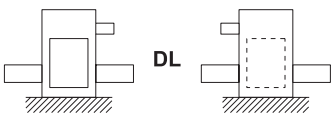
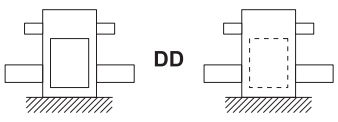
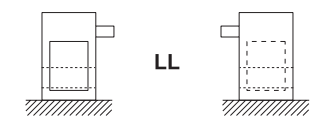
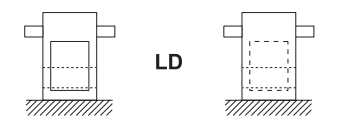
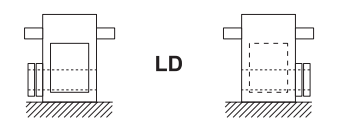
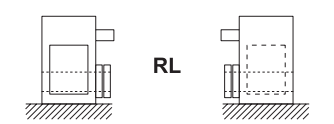
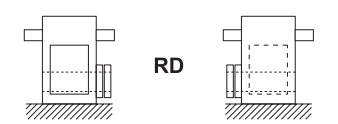
• **Motor flange mounting** for an IEC-standard electric motor with IM B5 flange. The option is only applicable to units HDP 60... HDP 90 in the triple reduction configuration – Specify **AD**.

• **Motor mounting through bell housing and flexible coupling**. The option is designated **GL** or **GR** depending on what side of the gear unit the coupling is mounted. The flexible coupling is within the scope for supply.

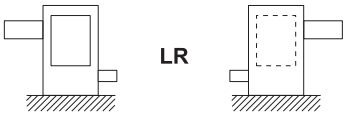
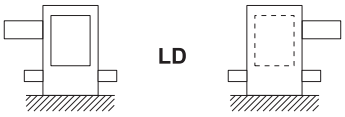
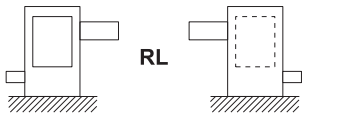
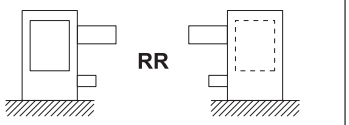
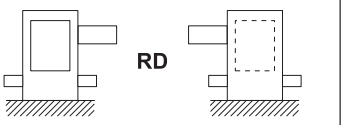
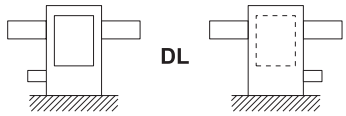
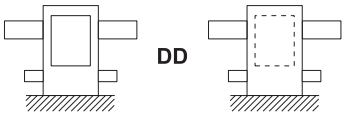
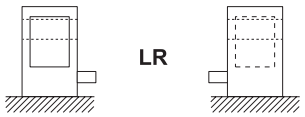
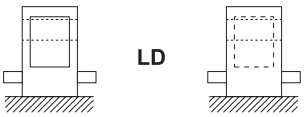
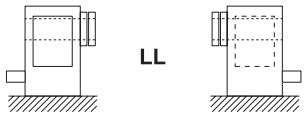
VP	AD	GL	GR
			

15.4.3 SHAFT ARRANGEMENT

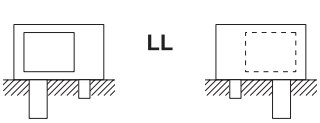
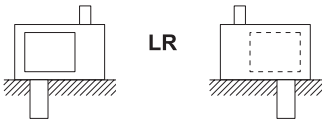
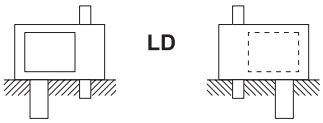
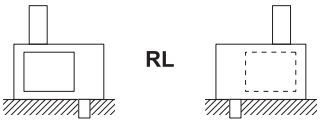
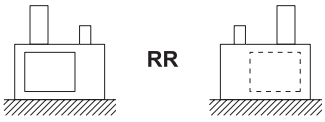
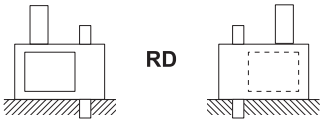
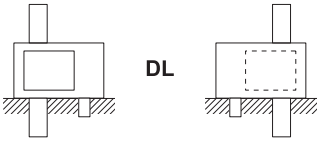
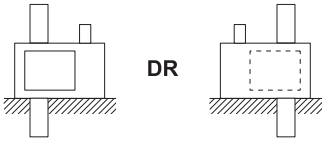
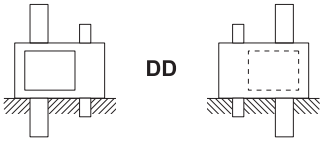
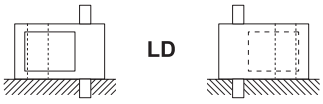
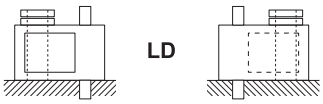
		VP - GL - AD	VP - GR - AD	VP - GL - GR
B3	LP	 LL	 LR	 LD
		 RL	 RR	 RD
		DL	DR	DD
	H	 LL	 LR	 LD
	S	 LL	 LR	 LD
		 RL	 RR	 RD

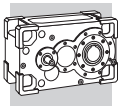
		VP - GL - AD	VP - GR - AD	VP - GL - GR
B6	LP	 LL	 LR	 LD
		 RL	 RR	 RD
		 DL	 DR	 DD
	H	 LL	 LR	 LD
	S	 LL	 LR	 LD
		 RL	 RR	 RD

B7

	VP - GL - AD	VP - GR - AD	VP - GL - GR
LP	 LL	 LR	 LD
LP	 RL	 RR	 RD
LP	 DL	 DR	 DD
H	 LL	 LR	 LD
S	 LL	 LR	 LD
S	 RL	 RR	 RD

V5

	VP - GL - AD	VP - GR - AD	VP - GL - GR
LP	 LL	 LR	 LD
LP	 RL	 RR	 RD
LP	 DL	 DR	 DD
H	 LL	 LR	 LD
S	 LL	 LR	 LD
S	 RL	 RR	 RD



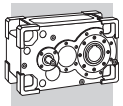
15.5 MOTOR AVAILABILITY

The following charts list the motor/gearbox combinations that are geometrically feasible. Variants are only applicable if either an AD (direct motor mounting) or a GL / GR input configuration (coupling through bell housing and flexible coupling) were previously specified within the ordering code.

Because of standardisation, the rated power of the electric motor selected might be greater than nominal power Pn1 of choosen gearbox. Make sure that the electric motor will never develop the extra power at any stage of the operating cycle. If you have any doubts about the validity of the application data, or uncertainty concerning the actual load pattern, install a torque limiting device or proportionally revise the applicable service factor.

	Input configuration				
	AD				
	112	132	160	180	200
HDP 60 3	X	X	X	X	
HDP 70 3	X	X	X	X	X
HDP 80 3	—	X	X	X	X
HDP 90 3	—	—	X	X	X

		Input configuration						
		GL - GR						
		132	160	180	200	225	250	280
HDP 60 2	i =	17.3_19.4	7.1_19.4	7.1_19.4	7.1_19.4	7.1_19.4	—	—
HDP 60 3		22.7_98.4	22.7_98.4	22.7_49.1	22.7_49.1	22.7_49.1	—	—
HDP 70 2		19.4_22.6	8.0_22.6	8.0_22.6	8.0_22.6	8.0_22.6	—	—
HDP 70 3		25.5_114.4	25.5_114.4	25.5_57.0	25.5_57.0	25.5_57.0	—	—
HDP 80 2		—	15.5_22.6	15.5_22.6	15.5_22.6	8.1_22.6	8.1_22.6	8.1_22.6
HDP 80 3		—	25.8_111.4	25.8_111.4	25.8_75.2	25.8_75.2	25.8_75.2	25.8_75.2
HDP 90 2		—	15.8_22.4	15.8_22.4	15.8_22.4	15.8_22.4	7.9_22.4	7.9_22.4
HDP 90 3		—	25.4_110.1	25.4_110.1	25.4_110.1	25.4_73.3	25.4_73.3	25.4_73.3



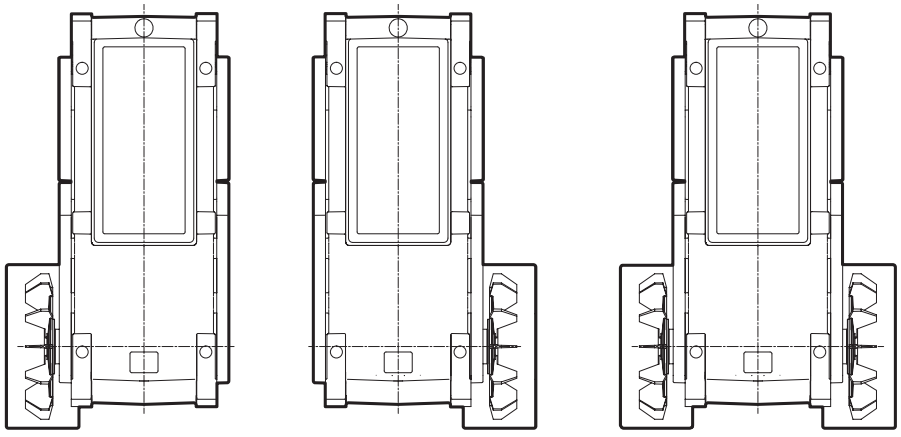
Input configuration										
		GL - GR								
		112	132	160	180	200	225	250	280	315
HDP 100 2	i =	—	—	—	—	—	—	7.4_21.8	7.4_21.8	7.4_21.8
HDP 100 3		—	—	55.5_107.6	55.5_107.6	22.8_107.6	22.8_107.6	22.8_107.6	22.8_50.0	22.8_50.0
HDP 100 4		110.6_507.9	110.6_507.9	110.6_507.9	110.6_507.9	110.6_507.9	—	—	—	—
HDP 110 2		—	—	—	—	—	—	8.1_25.0	8.1_25.0	8.1_25.0
HDP 110 3		—	—	60.7_123.4	60.7_123.4	24.9_123.4	24.9_123.4	24.9_123.4	24.9_54.5	24.9_54.5
HDP 110 4		120.9_499.4	120.9_499.4	120.9_499.4	120.9_499.4	120.9_499.4	—	—	—	—
HDP 120 2		—	—	—	—	—	—	—	7.9_25.4	7.9_25.4
HDP 120 3		—	—	—	64.3_125.2	64.3_125.2	25.8_125.2	25.8_125.2	25.8_56.1	25.8_56.1
HDP 120 4		—	128.0_523.7	128.0_523.7	128.0_523.7	128.0_523.7	128.0_523.7	—	—	—
HDP 125 2		—	—	—	—	—	—	—	8.9_25.0	8.9_25.0
HDP 125 3		—	—	—	72.5_123.6	72.5_123.6	29.1_123.6	29.1_123.6	29.1_62.6	29.1_62.6
HDP 125 4		—	144.4_506.5	144.4_506.5	144.4_506.5	144.4_506.5	144.4_506.5	—	—	—
HDP 130 2		—	—	—	—	—	—	—	—	7.3_21.7
HDP 130 3		—	—	—	—	—	56.5_108.3	56.5_108.3	21.8_108.3	21.8_108.3
HDP 130 4		—	—	111.2_534.5	111.2_534.5	111.2_534.5	111.2_217.9	111.2_217.9	—	—
HDP 140 2		—	—	—	—	—	—	—	—	8.4_24.9
HDP 140 3		—	—	—	—	—	65.1_124.7	65.1_124.7	25.1_124.7	25.1_124.7
HDP 140 4		—	—	141.6_495.3	141.6_495.3	141.6_495.3	141.6_277.5	141.6_277.5	—	—
HDP 150 2		—	—	—	—	—	—	—	—	—
HDP 150 3		—	—	—	—	—	—	—	43.5_77.0	21.5_77.0
HDP 150 4		—	—	170.9_303.1	170.9_303.1	89.0_303.1	89.0_303.1	89.0_303.1	89.0_303.1	89.0_157.8
HDP 160 2		—	—	—	—	—	—	—	—	—
HDP 160 3		—	—	—	—	—	—	—	49.4_87.0	24.4_87.0
HDP 160 4		—	—	194.1_342.2	194.1_342.2	101.1_342.2	101.1_342.2	101.1_342.2	101.1_342.2	101.1_178.1
HDP 170		BONFIGLIOLI TECHNICAL SERVICE								
HDP 180										

15.6 OPTIONAL VARIANTS

15.6.1 AUXILIARY COOLING DEVICES

15.6.1.1 FAN COOLING

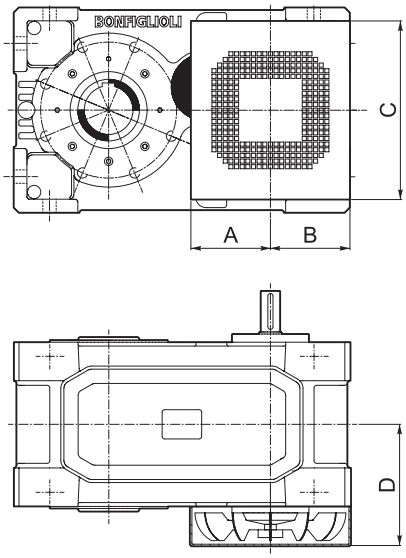
Greater heat dissipation capacity can be achieved by installing cooling fans, which are keyed on to the gearbox input shaft. Gear units HDP 60 ... HDP 90 and HDP 100 ... HDP 160 with lantern type motor adapter (GL/GR) may have an auxiliary fan fitted to the side opposite the drive end. Specify code **FANL** or **FANR**. On units ranging from HDP 100 to HDP 160 in the solid input shaft configuration (VP), the fan can be mounted on the right or left side irrespective of whether a drive shaft is present or not.
It is also possible to maximise the cooling capacity on HDP 100 to HDP 160 gearboxes by fitting two fans, specifying code FANLR in the order.
On the gearboxes HDP 170 and HDP 180, are used axial fans with fixed airfoil profile as standard.
Along with the specification of the option FANL or FANR, the direction of rotation for the output shaft (CW or CCW) must also be specified in the order, according to the conventions given in paragraph 15.6.3.



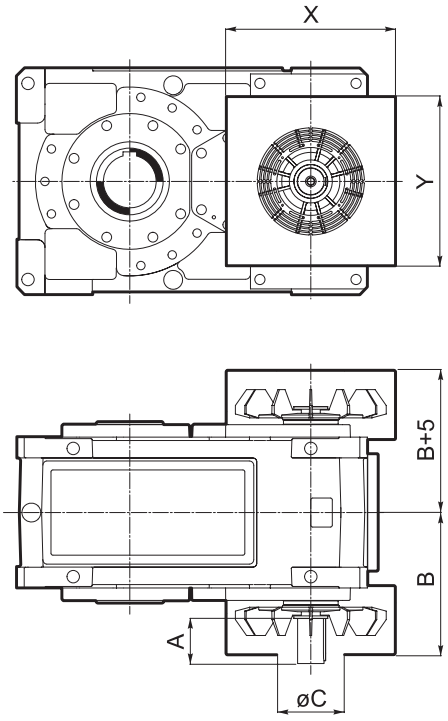
FANL **FANR** **FANLR**

(HDP 100 ... HDP 160)

This option is not available in conjunction with configurations that use the same shaft end or with MOP variant (forced lubrication with electric pump).
The increased cooling effect is shown by the thermal capacity value P_{TFAN}. See chapter 17. The efficiency of forced ventilation falls drastically below the drive speed of n_1 = 900 min^{-1}. In this case, it is advisable to adopt other auxiliary cooling devices to increase the thermal capacity of the gearbox.



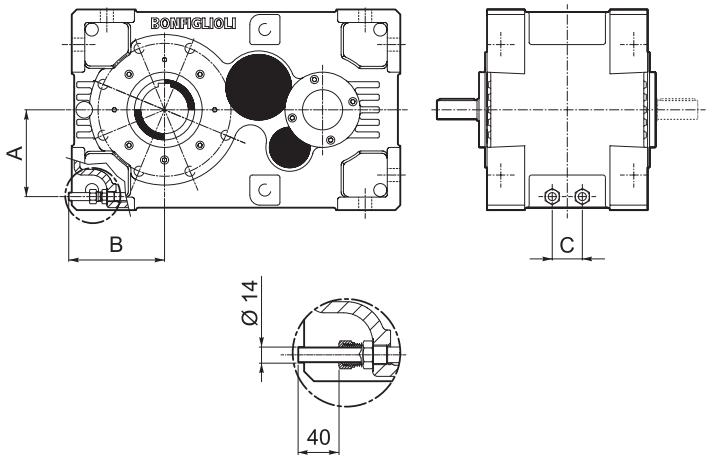
	A	B	C	D
HDP 60 FAN_	125	130	255	200
HDP 70 FAN_	125	130	255	200
HDP 80 FAN_	155	155	348	235
HDP 90 FAN_	178	178	360	260



	i	A	B	C	X	Y
HDP 100 FAN_	7.4 ≤ i ≤ 21.8	105	330	180	424	420
	22.8 ≤ i ≤ 107.6	82	330	180	424	420
	110.6 ≤ i ≤ 507.9	58	330	180	424	420
HDP 110 FAN_	8.1 ≤ i ≤ 25.0	105	330	180	424	420
	24.9 ≤ i ≤ 123.4	82	330	180	424	420
	120.9 ≤ i ≤ 499.4	58	330	180	424	420
HDP 120 FAN_	7.9 ≤ i ≤ 25.4	105	345	180	450	450
	25.8 ≤ i ≤ 125.2	85	345	180	450	450
	128.0 ≤ i ≤ 523.7	58	345	180	450	450
HDP 125 FAN_	8.9 ≤ i ≤ 25.0	105	345	180	450	450
	29.1 ≤ i ≤ 123.6	85	345	180	450	450
	144.4 ≤ i ≤ 506.5	58	345	180	450	450
HDP 130 FAN_	7.3 ≤ i ≤ 12.3	130	422	230	540	590
	14.1 ≤ i ≤ 48.1	105	422	230	540	590
	56.5 ≤ i ≤ 237.9	82	422	230	540	590
	274.5 ≤ i ≤ 534.5	58	422	230	540	590
HDP 140 FAN_	8.4 ≤ i ≤ 14.4	130	422	230	540	590
	16.3 ≤ i ≤ 56.2	105	422	230	540	590
	65.1 ≤ i ≤ 277.5	82	422	230	540	590
	315.9 ≤ i ≤ 495.3	58	422	230	540	590
HDP 150 FAN_	7.9 ≤ i ≤ 14.1	165	472	230	540	665
	15.4 ≤ i ≤ 38.1	130	472	230	540	665
	43.5 ≤ i ≤ 77.0	105	472	230	540	665
	89.0 ≤ i ≤ 303.1	82	472	230	540	665
HDP 160 FAN_	9.0 ≤ i ≤ 15.9	165	472	230	540	665
	17.5 ≤ i ≤ 43.1	130	472	230	540	665
	49.4 ≤ i ≤ 87.0	105	472	230	540	665
	101.1 ≤ i ≤ 342.2	82	472	230	540	665
HDP 170 FAN_	BONFIGLIOLI TECHNICAL SERVICE					
HDP 180 FAN_						

15.6.1.2 HEAT DISSIPATION THROUGH COOLING COIL

The cooling coil option **SR** is designed for integration in a cooling circuit to be provided by the installer.
For optimal efficiency the cooling circuit supply must comply with the following specifications:
• max. pressure 8 bar
• min flow rate 5 l/min for HDP 60 … HDP 90
• min flow rate 10 l/min for HDP 100 … HDP 140
• max. water temperature 20°C
The increased cooling effect obtained in these conditions is shown by the thermal capacity value P_{TSR}. See the section 17



	A	B	C
HDP 60_ SR	147	170	60
HDP 70_ SR	147	170	60
HDP 80_ SR	173	190	60
HDP 90_ SR	190	210	60
HDP 100_ SR	230	285	100
HDP 110_ SR	230	270	100
HDP 120_ SR	258	305	100
HDP 125_ SR	288	345	100
HDP 130_ SR	325	340	100
HDP 140_ SR	325	365	100
HDP 150	BONFIGLIOLI TECHNICAL SERVICE		
HDP 160			
HDP 170			
HDP 180			

15.6.1.3 AUXILIARY COOLING WITH AUTONOMOUS COOLING UNIT

Two types of cooling units are available, each in a range of sizes providing different cooling capacities. The two types use different cooling media for the oil: MCRW… – water/oil heat exchanger and MCRA… – air/oil heat exchanger.
If an independent cooling unit is installed on the advice of the Bonfiglioli Technical Service, no additional forced lubrication devices are required. See section 15.6.2. The following chart shows device availability according to gearbox size.
Your selection must take into account the deficit in thermal capacity that must be made up by contribution P_{TMCRW} or P_{TMCRA} as shown in the chart in section 17.

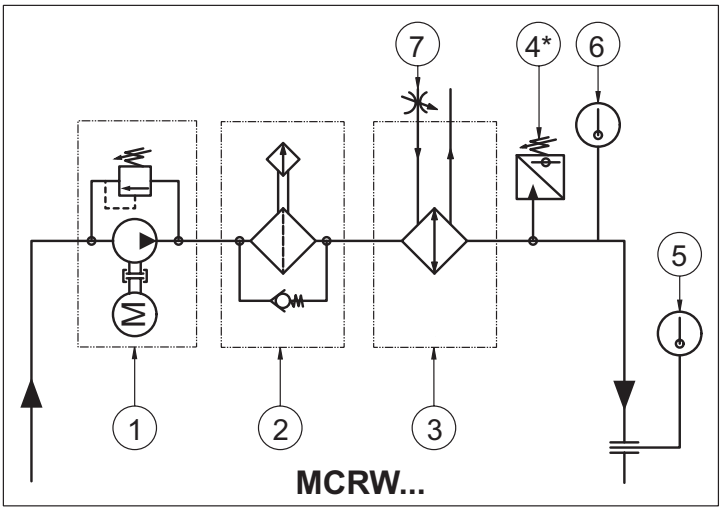
	MCRW5 MCRA5	MCRW9 MCRA9	MCRW21 MCRA21	MCRW34 MCRA34	MCRW51 MCRA51	MCRW70 MCRA70
HDP 100	**X**	**X**				
HDP 110	**X**	**X**				
HDP 120	**X**	**X**	**X (*)**			
HDP 125	**X**	**X**	**X (**)**			
HDP 130	**X**	**X**	**X**	**X (**)**		
HDP 140	**X**	**X**	**X**	**X (**)**		
HDP 150	**X**	**X**	**X**	**X**	**X (**)**	
HDP 160	**X**	**X**	**X**	**X**	**X (**)**	
HDP 170	BONFIGLIOLI TECHNICAL SERVICE					
HDP 180						

(*) not available for mounting position B3.
(**) not available for double reduction units in the mounting position B3.

The main components of the cooling units are as follows:

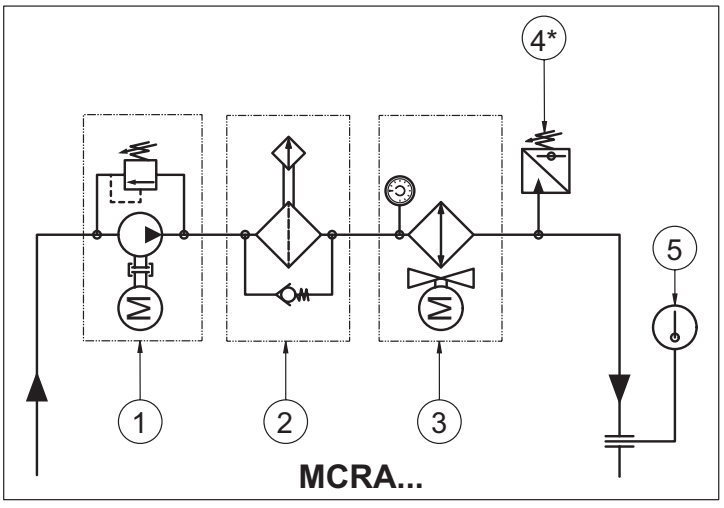
MCRW…

1) motorpump complete with by-pass circuit
2) filter with clogging visual indicator
3) water/oil heat exchanger
4) minimum pressure switch (only available in combination with forced lubrication)
5) maximum temperature thermostat
6) minimum temperature switch
7) electro-valve



MCRA…

1) motorpump complete with by-pass circuit
2) filter with clogging visual indicator
3) air/oil heat exchanger with thermostat
4) minimum pressure switch (only available in combination with forced lubrication)
5) maximum temperature thermostat



General warnings:

MCRW... : provide a water supply system that corresponds to the following specifications:

- max. pressure 10 bar
- maximum delivery temperature 20°C
- minimum flow rate Q_{H2O} as per the chart:

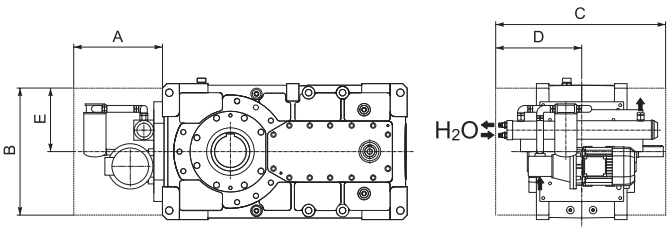
	MCRW5	MCRW9	MCRW21	MCRW34	MCRW51	MCRW70
Q_{H2O} [l/min]	10	18	31	56	81	BONFIGLIOLI TECHNICAL SERVICE

MCRA... : leave sufficient space around the heat exchanger to ensure an unrestricted air flow.

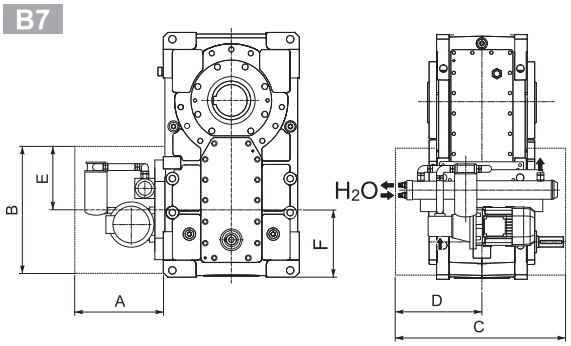
The cooling units are mounted as shown in the figure below.

MCRW...

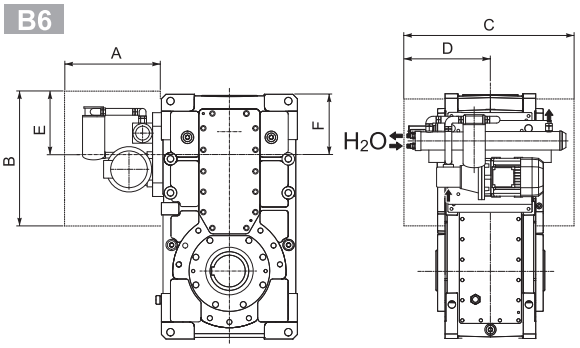
B3



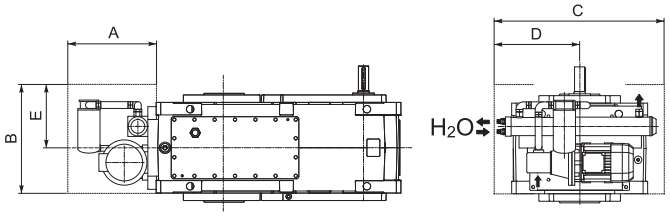
B7



B6



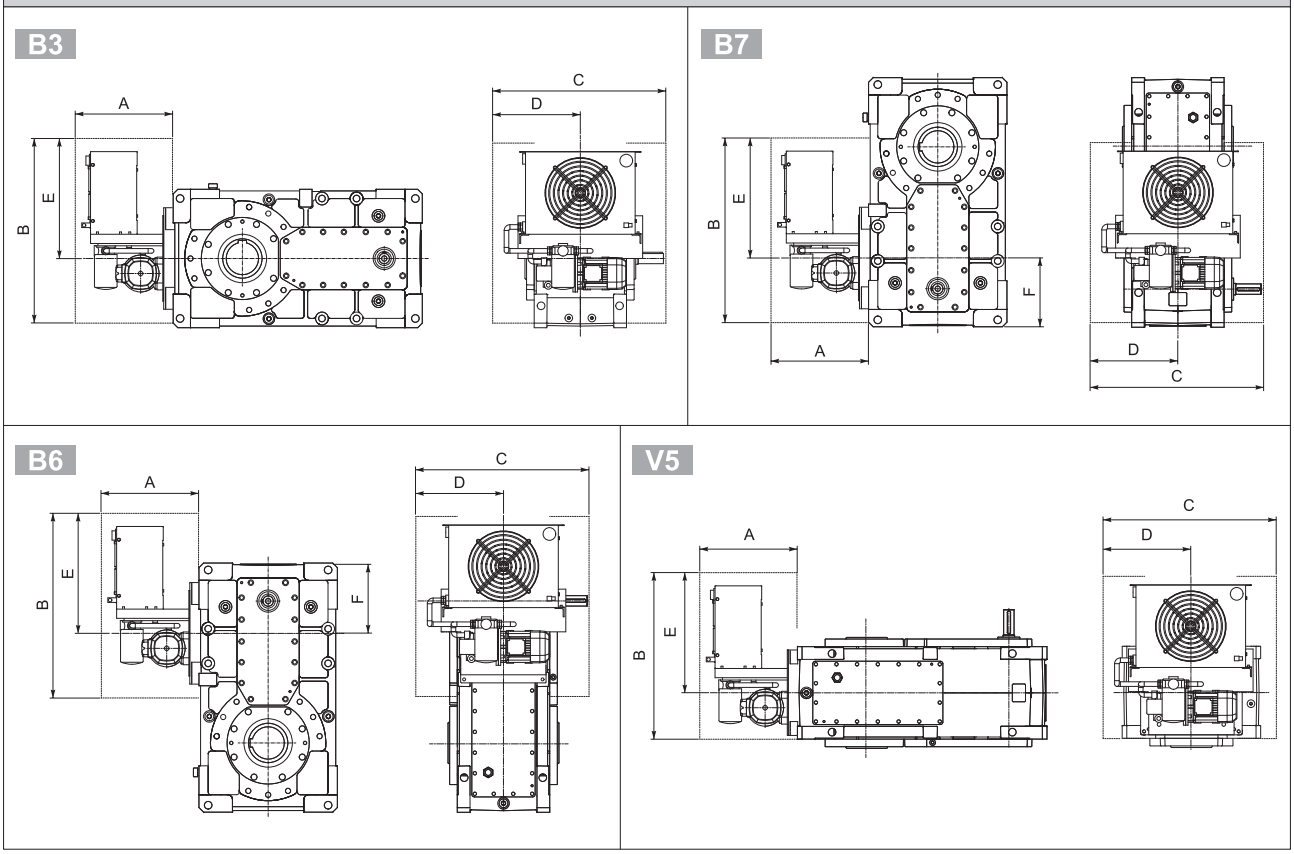
V5



	A	B	C	D	E	F									
						HDP 100 - HDP 110		HDP 120		HDP 125		HDP 130 - HDP 140		HDP 150 - HDP 160	
						2x	3x/4x	2x	3x/4x	2x	3x/4x	2x	3x/4x	2x	3x/4x
MCRW5	360	415	730	365	230	325	270	350	300	BONFIGLIOLI TECHNICAL SERVICE		420	380	475	395
MCRW9	360	380	870	435	195										
MCRW21	400	425	780	390	240										
MCRW34	430	650	1000	500	465										
MCRW51	520	650	1250	625	465										
MCRW70	BONFIGLIOLI TECHNICAL SERVICE														

Overall dimensions A, B, C, D and E are indicative only

MCRA...



	A	B	C	D	E	F						
						HDP 100 - HDP 110		HDP 120		HDP 125		HDP 130 - HDP 140		HDP 150 - HDP 160	
						2x	3x/4x	2x	3x/4x	2x	3x/4x	2x	3x/4x	2x	3x/4x
MCRA5	400	560	500	250	375	325	270	350	300	BONFIGLIOLI TECHNICAL SERVICE		420	380	475	395
MCRA9	435	650	640	320	465										
MCRA21	440	815	700	350	630										
MCRA34	500	920	840	420	735										
MCRA51	560	1075	1000	500	890										
MCRA70	BONFIGLIOLI TECHNICAL SERVICE														

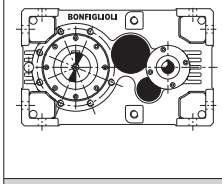
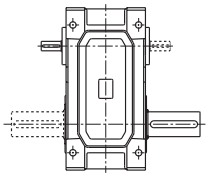
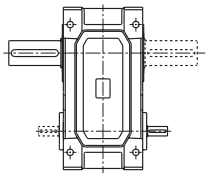
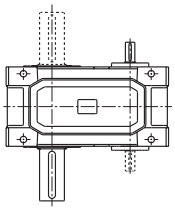
⚠ Overall dimensions A, B, C, D and E are indicative only

15.6.1.4 HEATERS

In very low ambient temperatures it may prove necessary to pre-heat the lubricant in the sump before start-up and/or during operation. The **HE** option envisages the installation of an electrical heating element, supplied with a thermostat to detect when the minimum temperature needed for correct operation has been reached. The wiring necessary for the thermostat must be provided by the installer.

15.6.2 FORCED LUBRICATION

Pattern for MANDATORY specification of forced lubrication devices.

				
	B3	**B6**	**B7**	**V5**
HDP 60 ... HDP 90	⛔	⛔	⛔	(*)
HDP 100 ... HDP 180	⛔	⛔	⛔	OP... MOP

Remark: Forced lubrication devices may be replaced, upon approval from Bonfiglioli Techical Service, by independent cooling systems, type MCR...

(*) Forced lubrication in this case is only optionally requested, NOT MANDATORY.

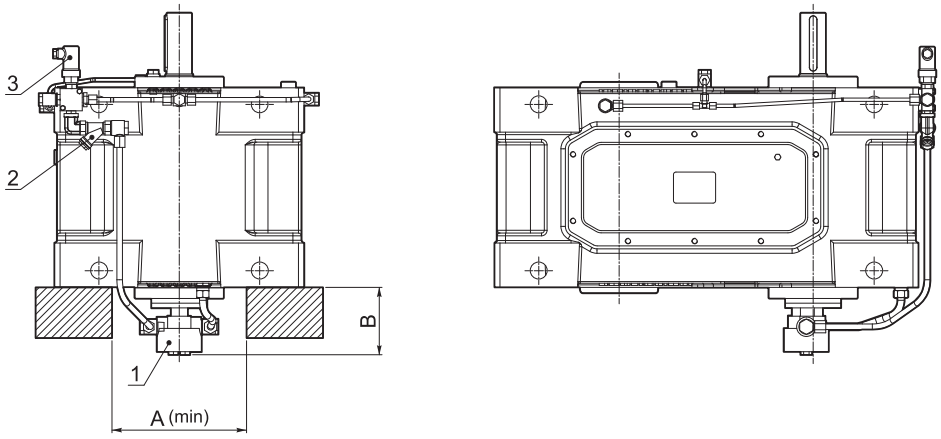
15.6.2.1 MECHANICAL PUMP

In continuous duty applications and V5 mounting position installations, an optional forced lubrication circuit is available on request, complete with a pump keyed to the shaft end opposite the drive side. This system ensures adequate lubrication of the top bearings.
When ordering, specify the pump type - **OP1** or **OP2** to suit drive speed n_1. See the table below.

	n_1 = 1000 min^{-1}	**n_1 = 1200 min^{-1}**	**n_1 = 1500 min^{-1}**
HDP 60 ... HDP 140	OP2	OP2	OP1
HDP 150, HDP 160	OP2	OP2	OP2
HDP 170, HDP 180	BONFIGLIOLI TECHNICAL SERVICE		

This option is not available with other configurations that use the same shaft end.

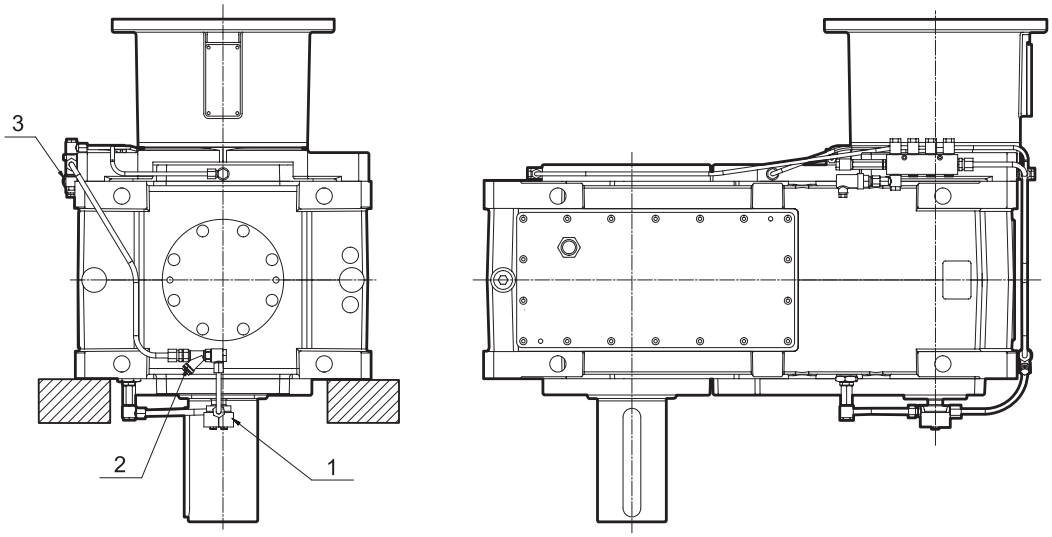
HDP 60 ... HDP 90



1 - Pump
2 - Filter
3 - Minimum pressure switch

	A (min)	B
HDP 60_ OP1	190	105
HDP 60_ OP2	190	105
HDP 70_ OP1	215	105
HDP 70_ OP2	215	105
HDP 80_ OP1	240	105
HDP 80_ OP2	240	130
HDP 90_ OP1	240	130
HDP 90_ OP2	240	130

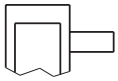
HDP 100 ... HDP 160



1 - Pump
2 - Filter
3 - Minimum pressure switch

Contact the Bonfiglioli Technical Service for overall dimensions.

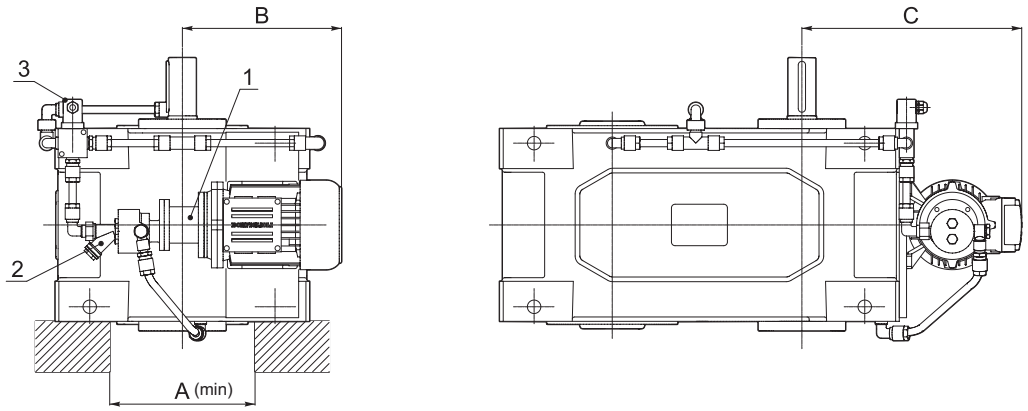
The chart shows the applicability for the pump depending on the input and output configuration.

			LL RL DL	LR RR DR	LD RD DD
HDP 60 ... HDP 180		**LP**	⛔	VP GR AD	⛔
		**H**	⛔	VP GR AD	⛔
		**S**	⛔	VP GR AD	⛔

15.6.2.2 MOTOR PUMP

For intermittent duty applications and V5 mounting position installations, a forced lubrication circuit is available on request, complete with an independently powered motor pump. This system ensures a constant oil flow to the top bearings. Specify the **MOP** option.
Option MOP is not available if fan cooling - option FAN_ - is also specified.

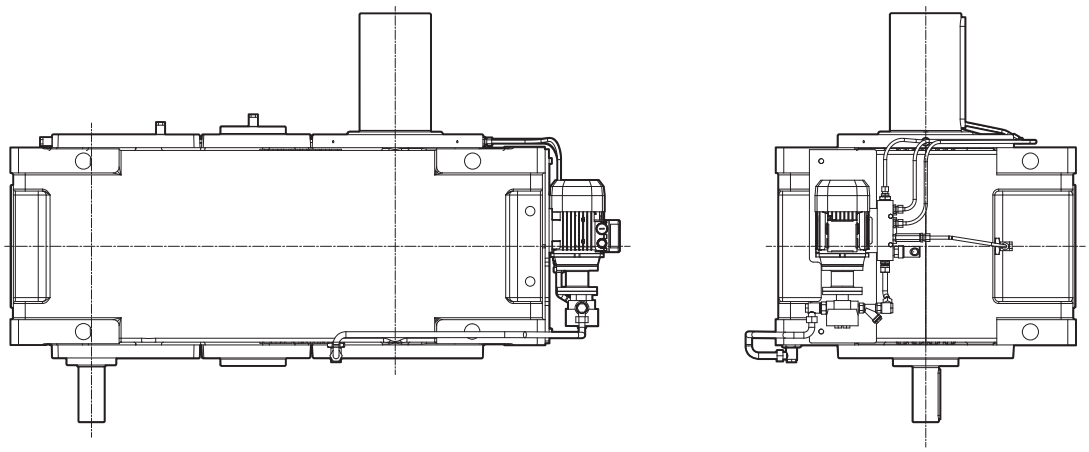
HDP 60 ... HDP 90



1 - Motorpump
2 - Filter
3 - Minimum pressure switch

	A (min)	B	C
HDP 60_ MOP	190	260	310
HDP 70_ MOP	215	260	330
HDP 80_ MOP	240	270	355
HDP 90_ MOP	240	285	390

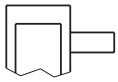
HDP 100 ... HDP 160



1 - Motorpump
2 - Filter
3 - Minimum pressure switch

Contact the Bonfiglioli Technical Service for overall dimensions.

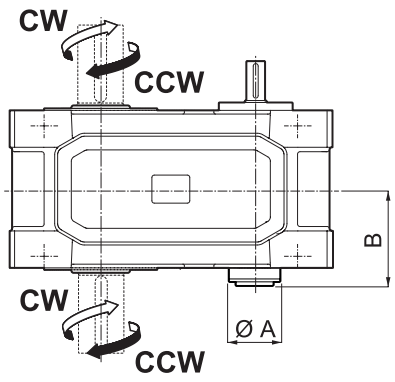
The chart shows the applicability for the motorpump depending on the input and output configuration.

			LL RD DL	LR RR DR	LD RD DD
HDP 60 ... HDP 90		LP	VP	VP GR AD	VP GR
		H	VP	VP GR AD	VP GR
		S	VP	VP GR AD	VP GR
HDP 100 ... HDP 180	No limitation on the basis of output or input configurations				

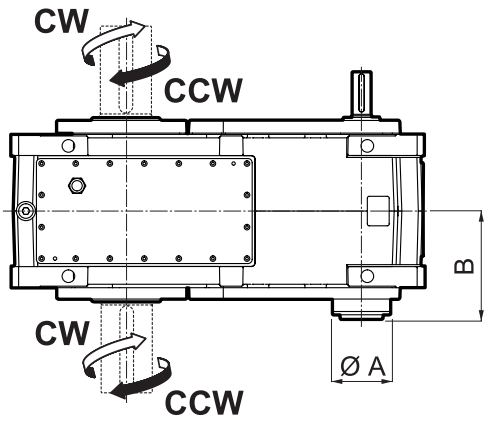
15.6.3 BACKSTOP DEVICE

The backstop device ensures that only one direction of rotation is allowed, and prevents the gearbox to be backdriven by the load connected to the output shaft.
In addition to verifying the shock loads shown in section 11.1, also make sure that the torque transmitted to the backstop $M_1 = M_2 / (i \times \eta)$ is less than the admissible torque M_{1max} listed in the chart below.
The backstop is keyed to the input shaft opposite the drive end and it is accessible for inspection.
Along with the specification of the backstop device, option **A**, the direction of free rotation for the output shaft (**CW** or **CCW**) must also be specified in the order. This option is not available with other configurations that use the same shaft end.
If special operating conditions require it, the user can reverse the direction of rotation of the backstop device by opening the backstop compartment and reversing the direction of the freewheel. If you need to perform this operation, contact Bonfiglioli's Technical Service for the necessary instructions.
The type of backstop device used, based on centrifugally released shoes, does not require any regular maintenance.
This option is not available with other configurations that use the same shaft end.

Under continuous operating conditions, it is advisable to maintain a neutral rotation speed n_{1min} greater than that specified in the chart in order to ensure the effective centrifugal release of all the shoes and avoid unnecessary wear.
For further details, contact the Bonfiglioli Technical Service.



	i	A	B	M_{1max} [Nm]	n_{1min} [min^{-1}]
HDP 60 2_A	7.1 ≤ i ≤ 15.2	125	202.5	800	720
	i = 17.3; 19.4	100	197.5	375	780
HDP 60 3_A	22.7 ≤ i ≤ 98.4	100	197.5	375	780
HDP 70 2_A	8.0 ≤ i ≤ 17.7	125	202.5	800	720
	i = 19.4; 22.6	100	197.5	375	780
HDP 70 3_A	25.5 ≤ i ≤ 114.4	100	197.5	375	780
HDP 80 2_A	8.1 ≤ i ≤ 22.6	130	233	912	665
HDP 80 3_A	25.8 ≤ i ≤ 111.4	110	228	550	740
HDP 90 2_A	7.9 ≤ i ≤ 22.4	150	261	1400	610
HDP 90 3_A	25.4 ≤ i ≤ 110.1	125	256	800	720



	i	A	B	M_{1max} [Nm]	n_{1min} [min^{-1}]
HDP 100 2_A	7.4 ≤ i ≤ 21.8	175	285	2350	490
HDP 100 3_A	22.8 ≤ i ≤ 50.0	150	298	1400	610
	55.5 ≤ i ≤ 107.6	125	293	800	720
HDP 100 4_A	110.6 ≤ i ≤ 507.9	95	262	310	825
HDP 110 2_A	8.1 ≤ i ≤ 25.0	175	285	2350	490
HDP 110 3_A	24.9 ≤ i ≤ 54.5	150	298	1400	610
	60.7 ≤ i ≤ 123.4	125	293	800	720
HDP 110 4_A	120.9 ≤ i ≤ 499.4	95	262	310	825
HDP 120 2_A	7.9 ≤ i ≤ 25.4	190	315	3050	480
HDP 120 3_A	25.8 ≤ i ≤ 56.1	150	285	1400	610
	64.3 ≤ i ≤ 125.2	125	279	800	720
HDP 120 4_A	128.0 ≤ i ≤ 523.7	95	277	310	825
HDP 125 2_A	8.9 ≤ i ≤ 25.0	190	315	3050	480
HDP 125 3_A	29.1 ≤ i ≤ 62.6	150	285	1400	610
	72.5 ≤ i ≤ 123.6	125	279	800	720
HDP 125 4_A	144.4 ≤ i ≤ 506.5	95	277	310	825
HDP 130 2_A	7.3 ≤ i ≤ 12.3	230	425	5600	420
	14.1 ≤ i ≤ 21.7	210	395	4500	450
HDP 130 3_A	21.8 ≤ i ≤ 48.1	190	366	3050	480
	56.5 ≤ i ≤ 108.3	175	366	2350	490
HDP 130 4_A	i = 111.2; 121.4	110	332	550	740
HDP 140 2_A	8.4 ≤ i ≤ 14.4	230	425	5600	420
	16.3 ≤ i ≤ 24.9	210	395	4500	450
HDP 140 3_A	25.1 ≤ i ≤ 56.2	190	366	3050	480
	65.1 ≤ i ≤ 124.7	175	342	2350	490
HDP 140 4_A	141.6 ≤ i ≤ 495.3	110	332	550	740
HDP 150 2_A	7.9 ≤ i ≤ 14.1	290	487.5	10500	455
	15.4 ≤ i ≤ 19.6	230	447.5	5600	420
HDP 150 3_A	21.5 ≤ i ≤ 38.1	230	445.5	5600	420
	43.5 ≤ i ≤ 77.0	190	417	3050	480
HDP 150 4_A	89.0 ≤ i ≤ 303.1	150	385	1400	610
HDP 160 2_A	9.0 ≤ i ≤ 15.9	290	487.5	10500	455
	17.5 ≤ i ≤ 22.1	230	447.5	5600	420
HDP 160 3_A	24.4 ≤ i ≤ 43.1	230	445.5	5600	420
	49.4 ≤ i ≤ 87.0	190	417	3050	480
HDP 160 4_A	101.1 ≤ i ≤ 342.2	150	385	1400	610
HDP 170	BONFIGLIOLI TECHNICAL SERVICE				
HDP 180					

15.6.4 REINFORCED BEARINGS

Optional heavy-duty bearings are also available, with increased overhung load capacity. The HDB option can only be applied to HDP 60 ... HDP 90 units with the LP shaft arrangement (solid shaft). Option cannot be specified along with variant DW -drywell-.

15.6.5 SEALS AND GASKETS

On request, gearboxes can be equipped with different oil sealing systems. These are:

TK - Taconite seals are recommended for environments characterised by the presence of abrasive dust or powders. Taconite seals incorporate a combination of sealing rings, labyrinths and a grease chamber. This option is not available for HDP 60 ... HDP 90.
Greasing must be ensured as part of the scheduled maintenance programme.
VS – Fluoro elastomer compound seal rings.
DS – Dual set of seal rings at each shaft end.
DVS – Dual set of Fluoro elastomer compound seal rings at each shaft end.

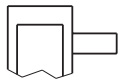
15.6.6 SENSORS

Bimetal thermostat – If the **TG** option is specified, a bimetallic thermostat detects when the oil temperature exceeds 90°C ± 5°C.
The device is supplied with the gear unit, but installation and wiring are the responsibility of the installer.

Oil level indicator – If the **OLG** option is specified in the order, the gearbox is supplied with a device to permit remote control of the oil level. The device best operates when the gearbox is idle and should be bypassed when the gearbox is operating. Wiring is the responsibility of the installer.
The device may not be available in combination with other accessories and/or particular product configurations. Please contact Bonfiglioli Technical Service for advise.

15.6.7 DRYWELL

The Drywell device, option **DW**, guarantees proper sealing for the output shaft. It can only be applied to gearboxes in vertical mounting position V5.
When specified, it necessarily requires the installation of a forced lubrication system, selected from those available for the gearbox, as illustrated in the relevant section of this catalogue.
At scheduled intervals, check and refill the grease in the vane underneath the output shaft's bottom bearing.
The chart shows the applicability for the drywell depending on the input and output configurations.

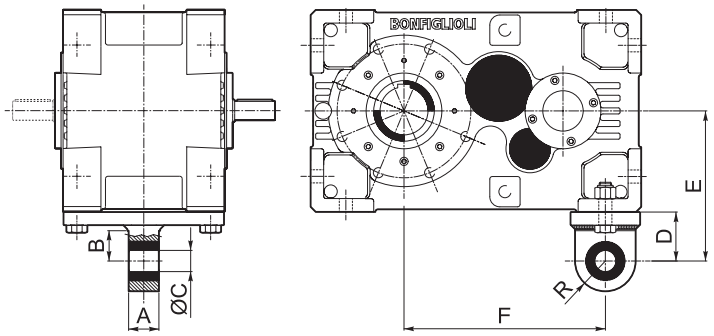
			LR	DR	LD	DD	LL	DL
HDP 60 ... HDP 180		LP	VP GR	VP GR	VP GR GL	VP GR GL	AD	AD
		H	VP GR	⛔	VP GR GL	⛔	AD	⛔
		S	VP GR	⛔	VP GR GL	⛔	AD	⛔

The drywell **is NOT available** for the gear ratios listed here under:

⛔ DW	HDP 60	HDP 70	HDP 80	HDP 90	HDP 100	HDP 110	HDP 120	HDP 125	HDP 130	HDP 140	HDP 150	HDP 160	HDP 170	HDP 180
i =	17.3 19.4 43.7 49.1 87.6 98.4	19.4 22.6 49.1 57.0 98.5 114.4	—	20.1 22.4 65.8 73.3 98.9 110.1	BONFIGLIOLI TECHNICAL SERVICE									

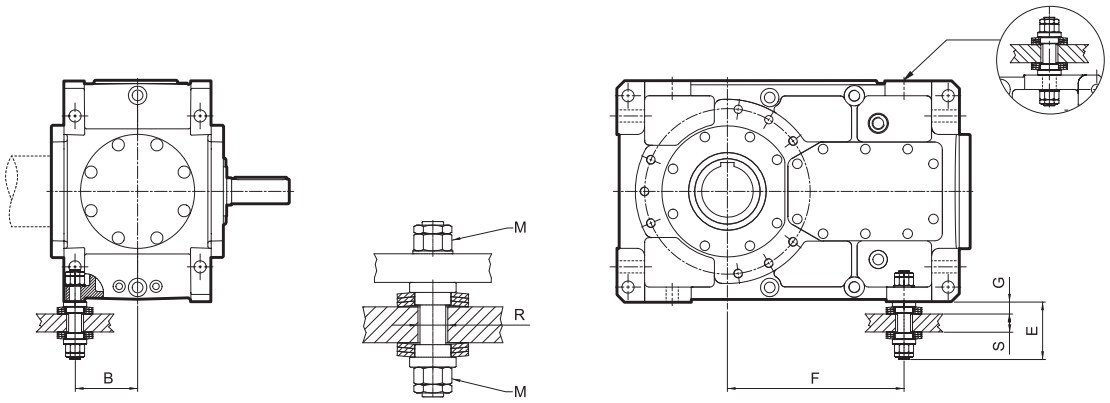
15.6.8 FIXING ELEMENTS

For shaft-mounted installations, HDP 60 ... HDP 90 gearboxes can be fitted with an electro-welded steel torque arm, complete with anti-vibration bushing.

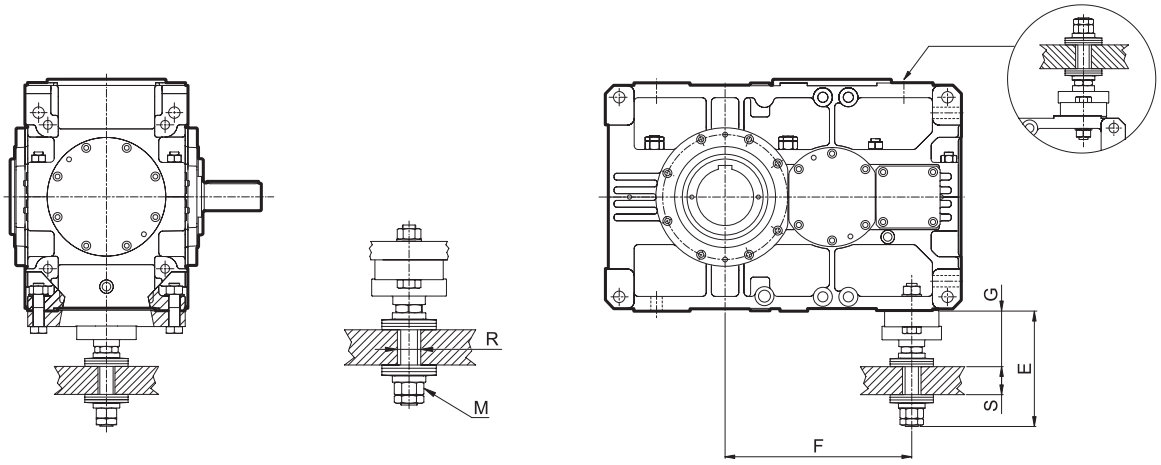


	A	B	C	D	E	F	R
HDP 60_ TA	40	47	32	76	251	340	47
HDP 70_ TA	40	47	32	76	251	375	47
HDP 80_ TA	60	60	42	97	297	400	60
HDP 90_ TA	60	68	42	113	338	460	68

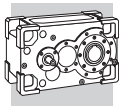
To perform the same function, gearboxes HDP 100 and larger can be supplied with a hardened steel bolt to secure the units to the machine framwork.
Vibration damping cup springs are also supplied within the kit. The customer must adjust the preload of these springs during installation, respecting the value G given in the chart below.
The reaction bolt must be fitted on the side of the gearbox next to the driven machine and in the farthest hole from output shaft centre (see dimension F in the following figure).
Fitting the bolt on same side as the inspection cover is not possible. In this case please contact Bonfiglioli Technical Service for advise.



	F	B	E	G Rated value	M	R	S	DIN2093
HDP 100 2_TA	420	160	153	33.4	M27	35	30 - 40	A100
HDP 100 3_TA **HDP 100 4_TA**	540							
HDP 110 2_TA	435	160	153	33.4	M27	35	30 - 40	A100
HDP 110 3_TA **HDP 110 4_TA**	555							
HDP 120 2_TA	480	170	166	33.4	M30	40	40 - 50	A100
HDP 120 3_TA **HDP 120 4_TA**	630							
HDP 125 2_TA	530	170	166	33.4	M30	40	40 - 50	A100
HDP 125 3_TA **HDP 125 4_TA**	680							
HDP 130 2_TA	585	216	205	42.7	M36	45	50 - 60	A125
HDP 130 3_TA **HDP 130 4_TA**	780							
HDP 140 2_TA	625	216	205	42.7	M36	45	50 - 60	A125
HDP 140 3_TA **HDP 140 4_TA**	790							



	F	E	G Rated value	M	R	S	DIN2093
HDP 150 2_TA	687.5	405	204.3	M48x2	52	70 - 80	A160
HDP 150 3_TA **HDP 150 4_TA**	877.5						
HDP 160 2_TA	727.5	405	204.3	M48x2	52	70 - 80	A160
HDP 160 3_TA **HDP 160 4_TA**	927.5						
HDP 170	BONFIGLIOLI TECHNICAL SERVICE						
HDP 180							



15.6.9 SURFACE PROTECTION

HDP 60 ... 90

When no specific protection class is requested, the painted (ferrous) surfaces of gearboxes are protected to at least corrosivity class C2 (UNI EN ISO 12944-2). For improved resistance to atmospheric corrosion, gearboxes can be delivered with C3 and C4 surface protection, obtained by painting the complete gearbox.

HDP 100 ... 180

When no specific protection class is requested, the painted surfaces of gearboxes are protected to at least corrosivity class C3 (UNI EN ISO 12944-2). For improved resistance to atmospheric corrosion, gearboxes can be delivered with C4 surface protection, obtained by painting the complete gearbox.

SURFACE PROTECTION	Typical environments	Maximum surface temperature	Corrosivity class according to UNI EN ISO 12944-2
C3	Urban and industrial environments with up to 100% relative humidity (medium air pollution)	120°C	C3
C4	Industrial areas, coastal areas, chemical plant, with up to 100% relative humidity (high air pollution)	120°C	C4

Gearboxes with optional protection to class C3 or C4 are available in a choice of colours.
If no specific colour is requested (see the “PAINTING” option) gearboxes are finished in RAL 7042.
Gearboxes can also be supplied with surface protection for corrosivity class C5 according to UNI EN ISO 12944-2. Contact our Technical Service for further details.

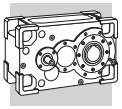
15.6.10 PAINTING

Gearboxes with optional protection to class C3 or C4 are available in the colours listed in the following table.

PAINTING	Colour	RAL number
RAL7042*	Traffic Grey A	7042
RAL5010	Gentian Blue	5010
RAL9005	Jet Black	9005
RAL9006	White Aluminium	9006
RAL9010	Pure White	9010

* Gearboxes are supplied in this standard colour if no other colour is specified.

NOTE - “PAINTING” options can only be specified in conjunction with “SURFACE PROTECTION” options.



15.6.11 CERTIFICATES

AC - Certificate of compliance
The document certifies the compliance of the product with the purchase order and the construction in conformity with the applicable procedures of the Bonfiglioli Quality System.

CC - Inspection certificate
The document entails checking on order compliance, the visual inspection of external conditions and of mating dimensions. Checking on main functional parameters in unloaded conditions is also performed along with oil seal proofing, both in static and in running conditions. Units inspected are sampled within the shipping batch and marked individually.

CT - Type certificate
Further to the activities relevant to the Inspection certificate the following checks are also conducted:
• noise
• surface temperature
• tightness of external hardware
• functionality of ancillary devices, if fitted

All checks are conducted with the gear unit running unloaded. Units inspected are sampled within the shipping batch and marked individually.

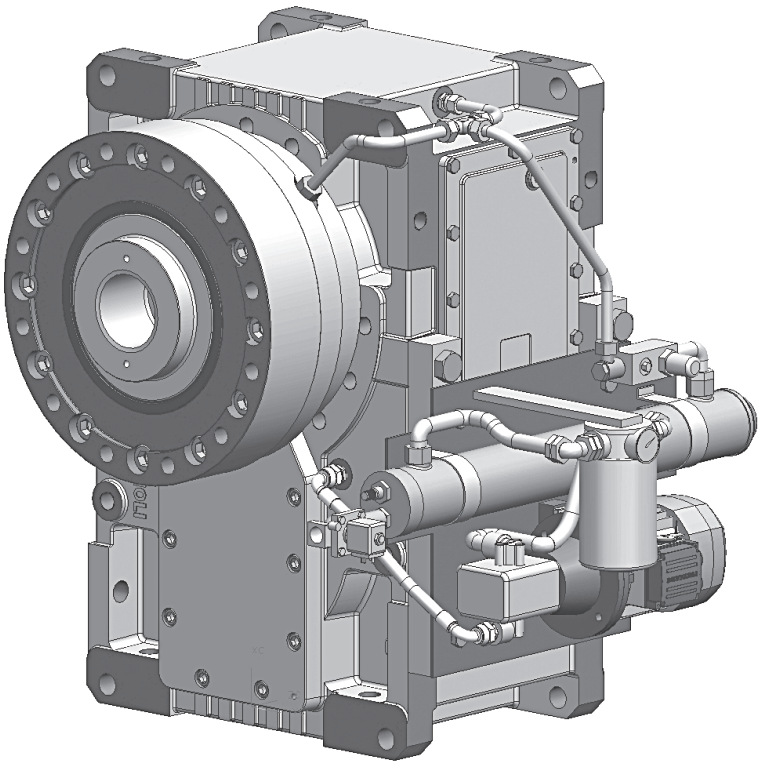
15.7 EXECUTION FOR EXTRUDER

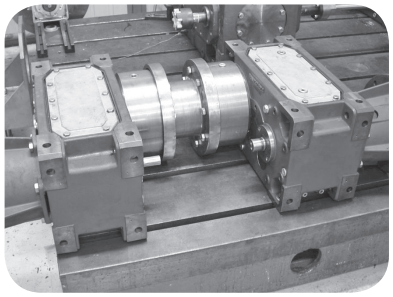
The HDPE series is the configuration specifically developed for **single-screw extruder drive** generated from the renown heavy duty series HDP, with which it shares most of the component parts and gearing.
Mounted forward to the sturdy nodular cast iron case, and housed into a robust extruder support, HDPE units feature a heavy duty spherical roller thrust bearing of series 294…E, exclusively sourced from primary brands.

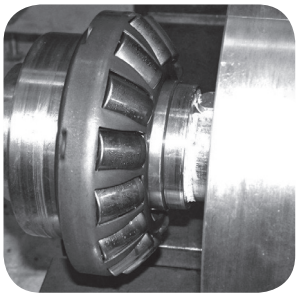
Design features

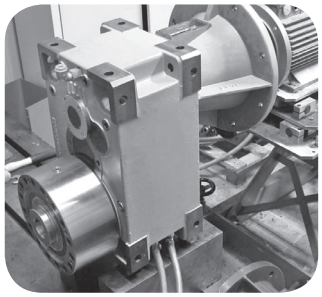
- Spheroidal graphite cast iron casing with universal mounting options
- Thrust bearing optimised for each application
- Radial roller bearings on the output shaft
- Customisable extruder screw/cylinder interface dimensions
- External cooling and forced lubrication units
- Lubrication shared between gearbox casing and screw box
- Fluoro elastomer compound seal rings

For more information see HDPE catalog.





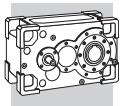




16 REFERENCE TORQUE

The torque values given in the table are influenced by the following elements: gear teeth, shafts and couplings. Performance may therefore vary with application conditions (see the “Thermal Capacity and Rating Charts”).

HDP															
		Mn_{2REF} [Nm]													
	i_N	HDP 60	HDP 70	HDP 80	HDP 90	HDP 100	HDP 110	HDP 120	HDP 125	HDP 130	HDP 140	HDP 150	HDP 160	HDP 170	HDP 180
2x	7.1	5.190	—	—	—	24.400	—	—		68.800	—	—	—	—	—
	8.0	4.720	6.200	10.350	14.000	24.710	26.080	36.820		65.830	86.990	113.880	—	150.450	—
	9.0	5.190	7.080	12.050	15.600	24.840	27.420	38.290	42.100	68.360	86.040	116.900	129.320	174.600	167.150
	10.0	4.720	6.750	11.350	17.700	24.740	26.540	37.550	43.940	65.410	86.990	112.740	150.940	189.150	193.450
	11.2	5.190	7.080	12.350	17.120	25.230	27.880	39.010	42.910	67.690	85.490	123.320	144.620	188.900	207.610
	12.5	4.720	6.750	11.500	17.700	24.740	26.940	38.140	44.300	64.770	86.990	115.490	142.390	197.670	209.900
	14.0	5.190	7.080	12.500	17.120	25.620	28.270	39.590	43.590	67.180	84.660	111.370	151.130	188.150	215.480
	16.0	4.720	6.750	11.750	17.000	24.570	27.330	38.580	44.980	64.290	86.990	123.610	142.840	188.900	204.880
	18.0	5.190	7.080	11.950	17.120	25.890	28.660	40.030	44.090	66.730	84.030	114.210	142.390	195.560	209.900
	20.0	4.720	6.750	11.900	17.700	24.410	27.660	39.000	45.480	63.860	86.990	110.150	149.410	186.170	213.180
	22.4	—	7.080	12.600	17.120	22.790	28.990	39.780	44.580	64.070	83.480	—	141.240	—	202.720
	25.0	—	—	—	—	—	26.960	36.630	45.950	—	82.230	—	—	—	—
3x	22.4	5.190	—	—	—	26.130	—	—		66.280	—	113.760	—	183.920	—
	25.0	4.720	6.750	9.900	17.900	24.260	30.360	40.090		63.450	77.440	113.030	129.180	190.190	204.380
	28.0	5.190	7.080	11.500	17.120	25.990	29.680	39.550	45.940	65.790	82.930	109.030	146.300	182.320	202.450
	31.5	4.720	6.750	11.650	17.900	24.140	30.740	40.810	47.450	62.990	84.810	117.200	139.790	188.900	200.130
	35.5	5.190	7.080	12.600	17.120	25.860	29.540	39.330	46.680	65.430	82.330	112.010	143.440	190.190	209.900
	40.0	4.720	6.750	12.600	17.900	24.030	31.130	40.620	48.180	62.650	84.810	108.070	146.300	182.210	202.450
	45.0	5.190	7.080	12.600	17.120	25.740	29.400	39.150	47.230	65.120	81.890	117.200	138.540	183.920	198.410
	50.0	4.720	6.750	11.950	17.900	23.920	31.100	40.410	48.720	62.360	82.170	111.000	138.770	189.610	204.380
	56.0	5.190	7.080	12.600	17.120	25.650	29.270	38.960	47.750	64.780	81.510	107.110	145.150	180.610	202.450
	63.0	4.720	6.750	12.600	17.900	23.830	30.740	40.250	49.240	62.050	84.810	117.200	137.300	188.900	196.680
	71.0	5.190	7.080	12.600	17.120	25.880	29.160	38.800	46.680	65.650	81.100	110.230	143.440	188.320	209.900
	80.0	4.720	6.750	12.000	17.900	24.050	31.130	40.600	48.180	62.890	84.810	106.390	144.140	179.410	202.450
	90.0	5.190	7.080	12.600	17.120	26.850	29.430	39.160	47.230	67.750	82.200	—	136.370	—	195.370
	100.0	4.720	6.750	12.600	17.900	24.880	31.350	41.250	48.720	64.910	82.170	—	—	—	—
	112.0	—	7.080	12.600	17.120	23.340	30.550	40.740	47.750	63.140	84.850	—	—	—	—
	125.0	—	—	—	—	—	27.630	37.570	49.240	—	78.870	—	—	—	—
4x	90.0	—	—	—	—	—	—	—		—	—	116.800	—	183.920	—
	100.0	—	—	—	—	—	—	—		—	—	116.060	132.640	190.190	204.380
	112.0	—	—	—	—	27.790	—	—		69.570	—	112.070	146.300	182.320	202.450
	125.0	—	—	—	—	24.880	31.350	41.250		66.770	—	117.200	143.630	188.900	205.480
	140.0	—	—	—	—	28.210	31.630	40.920	46.680	69.570	87.060	117.090	142.380	190.190	209.900
	160.0	—	—	—	—	24.880	31.790	41.250	48.180	66.770	84.860	114.780	146.300	182.320	202.450
	180.0	—	—	—	—	28.210	31.570	40.920	46.680	69.570	87.060	116.800	147.070	183.920	207.020
	200.0	—	—	—	—	24.880	31.570	41.250	48.180	66.770	81.580	117.090	132.640	190.190	204.380
	224.0	—	—	—	—	28.210	31.790	40.920	47.230	69.570	87.060	114.780	146.300	182.320	202.450
	250.0	—	—	—	—	24.880	31.350	41.250	49.240	66.770	81.230	117.200	147.070	188.900	205.480
	280.0	—	—	—	—	28.210	31.790	40.920	47.750	69.570	87.060	117.090	140.530	190.190	209.900
	315.0	—	—	—	—	25.110	31.570	41.250	48.180	66.770	84.860	114.780	146.300	182.320	202.450
	355.0	—	—	—	—	28.210	31.790	40.920	47.230	69.570	87.060	—	147.070	—	207.020
	400.0	—	—	—	—	25.410	31.570	41.250	48.180	66.770	84.860	—	—	—	—
	450.0	—	—	—	—	28.210	31.790	40.920	47.230	66.770	87.060	—	—	—	—
	500.0	—	—	—	—	25.410	31.570	41.250	49.240	63.140	82.170	—	—	—	—

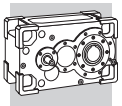


17 THERMAL CAPACITY AND RATING CHARTS

HDP 60											n_1 = 1800 min^{-1}
					t_a = 20°C			t_a = 40°C			
	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TSR} [kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TSR} [kW]	
HDP 60 2	**7.1**	252	4300	118	52	72	84	*	*	64	
HDP 60 2	**8.0**	224	4410	108	52	72	84	*	46	64	
HDP 60 2	**9.0**	201	4630	101	52	72	84	*	46	64	
HDP 60 2	**10.1**	179	4690	91	57	77	89	37	51	69	
HDP 60 2	**11.2**	161	4960	87	57	77	89	37	51	69	
HDP 60 2	**12.5**	144	4720	74	61	81	93	41	55	73	
HDP 60 2	**13.5**	133	5190	75	61	81	93	41	55	73	
HDP 60 2	**15.2**	118	4720	61	—	—	—	44	58	76	
HDP 60 2	**17.3**	104	5190	59	—	—	—	44	58	76	
HDP 60 2	**19.4**	93	4720	48	—	—	—	46	60	78	
HDP 60 3	**22.7**	79	4460	39	39	53	57	26	36	44	
HDP 60 3	**25.5**	71	4630	36	—	—	—	26	36	44	
HDP 60 3	**28.2**	64	4960	35	—	—	—	26	36	44	
HDP 60 3	**31.7**	57	4720	30	—	—	—	27	37	45	
HDP 60 3	**34.2**	53	5180	30	—	—	—	27	37	45	
HDP 60 3	**38.5**	47	4720	25	—	—	—	—	—	—	
HDP 60 3	**43.7**	41	5190	24	—	—	—	—	—	—	
HDP 60 3	**49.1**	37	4720	19.3	—	—	—	—	—	—	
HDP 60 3	**56.6**	32	5190	18.4	—	—	—	—	—	—	
HDP 60 3	**63.6**	28.3	4720	14.9	—	—	—	—	—	—	
HDP 60 3	**68.6**	26.2	5190	15.1	—	—	—	—	—	—	
HDP 60 3	**77.1**	23.3	4720	12.3	—	—	—	—	—	—	
HDP 60 3	**87.6**	20.6	5190	11.9	—	—	—	—	—	—	
HDP 60 3	**98.4**	18.3	4720	9.6	—	—	—	—	—	—	

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

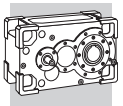


HDP 60 — n_1 = 1500 min ^{1}

	i	n_2 [min ^{1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 20°C P_T [kW]	t_a = 20°C $P_{TFANL/R}$ [kW]	t_a = 20°C P_{TSR} [kW]	t_a = 40°C P_T [kW]	t_a = 40°C $P_{TFANL/R}$ [kW]	t_a = 40°C P_{TSR} [kW]
HDP 60 2	**7.1**	210	4570	105	57	74	89	*	50	69
HDP 60 2	**8.0**	187	4630	94	57	74	89	*	50	69
HDP 60 2	**9.0**	167	4900	89	57	74	89	37	50	69
HDP 60 2	**10.1**	149	4720	77	61	78	93	41	54	73
HDP 60 2	**11.2**	134	5190	76	61	78	93	41	54	73
HDP 60 2	**12.5**	120	4720	62	—	—	—	44	57	76
HDP 60 2	**13.5**	111	5190	63	—	—	—	44	57	76
HDP 60 2	**15.2**	99	4720	51	—	—	—	46	59	78
HDP 60 2	**17.3**	87	5190	49	—	—	—	46	59	78
HDP 60 2	**19.4**	77	4720	40	—	—	—	—	—	—
HDP 60 3	**22.7**	66	4740	35	—	—	—	28	37	46
HDP 60 3	**25.5**	59	4720	31	—	—	—	28	37	46
HDP 60 3	**28.2**	53	5190	31	—	—	—	28	37	46
HDP 60 3	**31.7**	47	4720	25	—	—	—	—	—	—
HDP 60 3	**34.2**	44	5190	25	—	—	—	—	—	—
HDP 60 3	**38.5**	39	4720	20	—	—	—	—	—	—
HDP 60 3	**43.7**	34	5190	19.8	—	—	—	—	—	—
HDP 60 3	**49.1**	31	4720	16.0	—	—	—	—	—	—
HDP 60 3	**56.6**	26.5	5190	15.3	—	—	—	—	—	—
HDP 60 3	**63.6**	23.6	4720	12.4	—	—	—	—	—	—
HDP 60 3	**68.6**	21.9	5190	12.6	—	—	—	—	—	—
HDP 60 3	**77.1**	19.4	4720	10.2	—	—	—	—	—	—
HDP 60 3	**87.6**	17.1	5190	9.9	—	—	—	—	—	—
HDP 60 3	**98.4**	15.2	4720	8.0	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

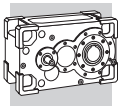


HDP 60 — n_1 = 1200 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 20°C			t_a = 40°C		
					P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TSR} [kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TSR} [kW]
HDP 60 2	**7.1**	168	4870	89	61	76	93	41	52	73
HDP 60 2	**8.0**	149	4720	77	61	76	93	41	52	73
HDP 60 2	**9.0**	134	5190	76	61	76	93	41	52	73
HDP 60 2	**10.1**	119	4720	61	—	—	—	44	55	76
HDP 60 2	**11.2**	108	5190	61	—	—	—	44	55	76
HDP 60 2	**12.5**	96	4720	49	—	—	—	46	57	78
HDP 60 2	**13.5**	89	5190	50	—	—	—	46	57	78
HDP 60 2	**15.2**	79	4720	41	—	—	—	—	—	—
HDP 60 2	**17.3**	69	5190	39	—	—	—	—	—	—
HDP 60 2	**19.4**	62	4720	32	—	—	—	—	—	—
HDP 60 3	**22.7**	53	5040	30	—	—	—	—	—	—
HDP 60 3	**25.5**	47	4720	25	—	—	—	—	—	—
HDP 60 3	**28.2**	43	5190	25	—	—	—	—	—	—
HDP 60 3	**31.7**	38	4720	20	—	—	—	—	—	—
HDP 60 3	**34.2**	35	5190	20	—	—	—	—	—	—
HDP 60 3	**38.5**	31	4720	16.4	—	—	—	—	—	—
HDP 60 3	**43.7**	27.5	5190	15.9	—	—	—	—	—	—
HDP 60 3	**49.1**	24.4	4720	12.8	—	—	—	—	—	—
HDP 60 3	**56.6**	21.2	5190	12.2	—	—	—	—	—	—
HDP 60 3	**63.6**	18.9	4720	9.9	—	—	—	—	—	—
HDP 60 3	**68.6**	17.5	5190	10.1	—	—	—	—	—	—
HDP 60 3	**77.1**	15.6	4720	8.2	—	—	—	—	—	—
HDP 60 3	**87.6**	13.7	5190	7.9	—	—	—	—	—	—
HDP 60 3	**98.4**	12.2	4720	6.4	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary



HDP 60 — n_1 = 1000 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 20°C			t_a = 40°C		
					P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TSR} [kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TSR} [kW]
HDP 60 2	**7.1**	140	5120	78	63	75	95	43	52	75
HDP 60 2	**8.0**	125	4720	64	63	75	95	43	52	75
HDP 60 2	**9.0**	111	5190	63	63	75	95	43	52	75
HDP 60 2	**10.1**	99	4720	51	—	—	—	45	54	77
HDP 60 2	**11.2**	90	5190	51	—	—	—	45	54	77
HDP 60 2	**12.5**	80	4720	41	—	—	—	—	—	—
HDP 60 2	**13.5**	74	5190	42	—	—	—	—	—	—
HDP 60 2	**15.2**	66	4720	34	—	—	—	—	—	—
HDP 60 2	**17.3**	58	5190	33	—	—	—	—	—	—
HDP 60 2	**19.4**	52	4720	27	—	—	—	—	—	—
HDP 60 3	**22.7**	44	5190	25	—	—	—	—	—	—
HDP 60 3	**25.5**	39	4720	21	—	—	—	—	—	—
HDP 60 3	**28.2**	35	5190	20	—	—	—	—	—	—
HDP 60 3	**31.7**	32	4720	16.6	—	—	—	—	—	—
HDP 60 3	**34.2**	29.2	5190	16.9	—	—	—	—	—	—
HDP 60 3	**38.5**	26.0	4720	13.7	—	—	—	—	—	—
HDP 60 3	**43.7**	22.9	5190	13.2	—	—	—	—	—	—
HDP 60 3	**49.1**	20.4	4720	10.7	—	—	—	—	—	—
HDP 60 3	**56.6**	17.7	5190	10.2	—	—	—	—	—	—
HDP 60 3	**63.6**	15.7	4720	8.3	—	—	—	—	—	—
HDP 60 3	**68.6**	14.6	5190	8.4	—	—	—	—	—	—
HDP 60 3	**77.1**	13.0	4720	6.8	—	—	—	—	—	—
HDP 60 3	**87.6**	11.4	5190	6.6	—	—	—	—	—	—
HDP 60 3	**98.4**	10.2	4720	5.3	—	—	—	—	—	—

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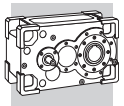
— Thermal verification not necessary



HDP 70 — n_1 = 1800 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 20°C P_T [kW]	t_a = 20°C $P_{TFANL/R}$ [kW]	t_a = 20°C P_{TSR} [kW]	t_a = 40°C P_T [kW]	t_a = 40°C $P_{TFANL/R}$ [kW]	t_a = 40°C P_{TSR} [kW]
HDP 70 2	**8.0**	224	5620	137	*	75	87	*	*	66
HDP 70 2	**9.3**	193	5840	123	55	75	87	*	*	66
HDP 70 2	**10.1**	178	6010	117	60	80	92	*	53	71
HDP 70 2	**11.7**	154	6230	104	60	80	92	*	53	71
HDP 70 2	**12.6**	143	6510	102	64	84	96	43	57	75
HDP 70 2	**14.6**	124	6730	91	64	84	96	43	57	75
HDP 70 2	**15.2**	118	6750	87	67	87	99	46	60	78
HDP 70 2	**17.7**	102	7080	79	67	87	99	46	60	78
HDP 70 2	**19.4**	93	6750	68	—	—	—	49	63	81
HDP 70 2	**22.6**	80	7080	62	—	—	—	49	63	81
HDP 70 3	**25.5**	71	6750	53	39	53	57	25	35	43
HDP 70 3	**29.6**	61	7080	48	39	53	57	25	35	43
HDP 70 3	**31.7**	57	6620	42	41	55	59	27	37	45
HDP 70 3	**36.9**	49	6840	37	—	—	—	27	37	45
HDP 70 3	**38.5**	47	6750	35	—	—	—	28	38	46
HDP 70 3	**44.7**	40	7080	32	—	—	—	28	38	46
HDP 70 3	**49.1**	37	6750	28	—	—	—	—	—	—
HDP 70 3	**57.0**	32	7080	25	—	—	—	—	—	—
HDP 70 3	**63.7**	28.3	6670	21	—	—	—	—	—	—
HDP 70 3	**73.9**	24.4	7080	19.2	—	—	—	—	—	—
HDP 70 3	**77.2**	23.3	6750	17.5	—	—	—	—	—	—
HDP 70 3	**89.6**	20.1	7080	15.8	—	—	—	—	—	—
HDP 70 3	**98.5**	18.3	6750	13.7	—	—	—	—	—	—
HDP 70 3	**114.4**	15.7	7080	12.4	—	—	—	—	—	—

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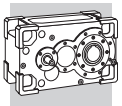
— Thermal verification not necessary



HDP 70 — n_1 = 1500 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 20°C			t_a = 40°C		
					P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TSR} [kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TSR} [kW]
HDP 70 2	**8.0**	187	5940	121	60	77	92	*	52	71
HDP 70 2	**9.3**	161	6150	108	60	77	92	*	52	71
HDP 70 2	**10.1**	149	6370	103	64	81	96	43	56	75
HDP 70 2	**11.7**	128	6590	92	64	81	96	43	56	75
HDP 70 2	**12.6**	120	6750	88	67	84	99	46	59	78
HDP 70 2	**14.6**	103	7080	79	67	84	99	46	59	78
HDP 70 2	**15.2**	99	6750	73	70	87	102	49	62	81
HDP 70 2	**17.7**	85	7080	66	—	—	—	49	62	81
HDP 70 2	**19.4**	77	6750	57	—	—	—	51	64	83
HDP 70 2	**22.6**	67	7080	51	—	—	—	51	64	83
HDP 70 3	**25.5**	59	6750	44	42	54	60	28	37	46
HDP 70 3	**29.6**	51	7080	40	—	—	—	28	37	46
HDP 70 3	**31.7**	47	6750	35	—	—	—	29	38	47
HDP 70 3	**36.9**	41	7080	32	—	—	—	29	38	47
HDP 70 3	**38.5**	39	6750	29	—	—	—	—	—	—
HDP 70 3	**44.7**	34	7080	26	—	—	—	—	—	—
HDP 70 3	**49.1**	31	6750	23	—	—	—	—	—	—
HDP 70 3	**57.0**	26.3	7080	21	—	—	—	—	—	—
HDP 70 3	**63.7**	23.6	6750	17.7	—	—	—	—	—	—
HDP 70 3	**73.9**	20.3	7080	16.0	—	—	—	—	—	—
HDP 70 3	**77.2**	19.4	6750	14.6	—	—	—	—	—	—
HDP 70 3	**89.6**	16.7	7080	13.2	—	—	—	—	—	—
HDP 70 3	**98.5**	15.2	6750	11.4	—	—	—	—	—	—
HDP 70 3	**114.4**	13.1	7080	10.3	—	—	—	—	—	—

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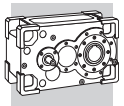

HDP 70 — n_1 = 1200 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 20°C			t_a = 40°C		
					P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TSR} [kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TSR} [kW]
HDP 70 2	**8.0**	149	6200	101	64	79	96	43	54	75
HDP 70 2	**9.3**	129	6550	92	64	79	96	43	54	75
HDP 70 2	**10.1**	119	6750	88	67	82	99	46	57	78
HDP 70 2	**11.7**	102	7040	79	67	82	99	46	57	78
HDP 70 2	**12.6**	96	6750	70	70	85	102	49	60	81
HDP 70 2	**14.6**	82	7080	64	—	—	—	49	60	81
HDP 70 2	**15.2**	79	6750	58	—	—	—	51	62	83
HDP 70 2	**17.7**	68	7080	52	—	—	—	51	62	83
HDP 70 2	**19.4**	62	6750	45	—	—	—	—	—	—
HDP 70 2	**22.6**	53	7080	41	—	—	—	—	—	—
HDP 70 3	**25.5**	47	6750	35	—	—	—	30	38	48
HDP 70 3	**29.6**	40	7080	32	—	—	—	30	38	48
HDP 70 3	**31.7**	38	6750	28	—	—	—	—	—	—
HDP 70 3	**36.9**	33	7080	26	—	—	—	—	—	—
HDP 70 3	**38.5**	31	6750	23	—	—	—	—	—	—
HDP 70 3	**44.7**	26.8	7080	21	—	—	—	—	—	—
HDP 70 3	**49.1**	24.4	6750	18.3	—	—	—	—	—	—
HDP 70 3	**57.0**	21.0	7080	16.6	—	—	—	—	—	—
HDP 70 3	**63.7**	18.9	6750	14.2	—	—	—	—	—	—
HDP 70 3	**73.9**	16.2	7080	12.8	—	—	—	—	—	—
HDP 70 3	**77.2**	15.5	6750	11.7	—	—	—	—	—	—
HDP 70 3	**89.6**	13.4	7080	10.5	—	—	—	—	—	—
HDP 70 3	**98.5**	12.2	6750	9.1	—	—	—	—	—	—
HDP 70 3	**114.4**	10.5	7080	8.3	—	—	—	—	—	—

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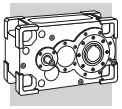

HDP 70 — n_1 = 1000 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 20°C			t_a = 40°C		
					P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TSR} [kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TSR} [kW]
HDP 70 2	**8.0**	124	6200	84	67	79	99	46	55	78
HDP 70 2	**9.3**	107	6950	81	67	79	99	46	55	78
HDP 70 2	**10.1**	99	6750	73	69	81	101	48	57	80
HDP 70 2	**11.7**	85	7080	66	—	—	—	48	57	80
HDP 70 2	**12.6**	80	6750	59	—	—	—	50	59	82
HDP 70 2	**14.6**	69	7080	53	—	—	—	50	59	82
HDP 70 2	**15.2**	66	6750	48	—	—	—	—	—	—
HDP 70 2	**17.7**	57	7080	44	—	—	—	—	—	—
HDP 70 2	**19.4**	51	6750	38	—	—	—	—	—	—
HDP 70 2	**22.6**	44	7080	34	—	—	—	—	—	—
HDP 70 3	**25.5**	39	6750	29	—	—	—	—	—	—
HDP 70 3	**29.6**	34	7080	27	—	—	—	—	—	—
HDP 70 3	**31.7**	31	6750	24	—	—	—	—	—	—
HDP 70 3	**36.9**	27.1	7080	21	—	—	—	—	—	—
HDP 70 3	**38.5**	26.0	6750	19.5	—	—	—	—	—	—
HDP 70 3	**44.7**	22.4	7080	17.6	—	—	—	—	—	—
HDP 70 3	**49.1**	20.4	6750	15.3	—	—	—	—	—	—
HDP 70 3	**57.0**	17.5	7080	13.8	—	—	—	—	—	—
HDP 70 3	**63.7**	15.7	6750	11.8	—	—	—	—	—	—
HDP 70 3	**73.9**	13.5	7080	10.7	—	—	—	—	—	—
HDP 70 3	**77.2**	13.0	6750	9.7	—	—	—	—	—	—
HDP 70 3	**89.6**	11.2	7080	8.8	—	—	—	—	—	—
HDP 70 3	**98.5**	10.2	6750	7.6	—	—	—	—	—	—
HDP 70 3	**114.4**	8.7	7080	6.9	—	—	—	—	—	—

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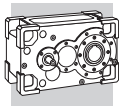


HDP 80											n_1 = 1800 min^{-1}
					t_a = 20°C			t_a = 40°C			
	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TSR} [kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TSR} [kW]
HDP 80 2	**8.1**	223	9820	239	*	122	130	*	*	102
HDP 80 2	**9.4**	192	10150	213	89	122	130	*	85	102
HDP 80 2	**9.8**	183	10480	209	92	125	133	*	88	105
HDP 80 2	**11.4**	158	10870	187	92	125	133	*	88	105
HDP 80 2	**12.6**	143	11420	178	94	127	135	*	91	108
HDP 80 2	**14.6**	123	11750	158	94	127	135	67	91	108
HDP 80 2	**15.5**	116	11750	149	96	129	137	69	93	110
HDP 80 2	**18.0**	100	11950	130	96	129	137	69	93	110
HDP 80 2	**19.4**	93	11900	120	97	130	138	70	94	111
HDP 80 2	**22.6**	80	12600	110	97	130	138	70	94	111
HDP 80 3	**25.8**	70	9900	77	56	78	84	37	53	65
HDP 80 3	**30.0**	60	11500	77	56	78	84	37	53	65
HDP 80 3	**31.7**	57	11310	71	58	80	86	39	55	67
HDP 80 3	**36.8**	49	12600	69	58	80	86	39	55	67
HDP 80 3	**39.8**	45	12020	60	59	81	87	40	56	68
HDP 80 3	**46.2**	39	12600	55	—	—	—	40	56	68
HDP 80 3	**51.6**	35	11950	46	—	—	—	41	57	69
HDP 80 3	**59.9**	30	12600	42	—	—	—	41	57	69
HDP 80 3	**64.8**	27.8	12600	39	—	—	—	—	—	—
HDP 80 3	**75.2**	23.9	12600	34	—	—	—	—	—	—
HDP 80 3	**76.4**	23.6	11200	29	—	—	—	—	—	—
HDP 80 3	**88.7**	20.3	12600	28	—	—	—	—	—	—
HDP 80 3	**95.9**	18.8	12600	26	—	—	—	—	—	—
HDP 80 3	**111.4**	16.2	12600	23	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

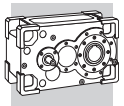
— Thermal verification not necessary

HDP 80 — n_1 = 1500 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 20°C P_T [kW]	t_a = 20°C $P_{TFANL/R}$ [kW]	t_a = 20°C P_{TSR} [kW]	t_a = 40°C P_T [kW]	t_a = 40°C $P_{TFANL/R}$ [kW]	t_a = 40°C P_{TSR} [kW]
HDP 80 2	**8.1**	186	10350	210	92	120	133	*	85	105
HDP 80 2	**9.4**	160	10730	187	92	120	133	*	85	105
HDP 80 2	**9.8**	152	11060	184	94	122	135	*	88	108
HDP 80 2	**11.4**	131	11500	165	94	122	135	67	88	108
HDP 80 2	**12.6**	119	11500	149	96	124	137	69	90	110
HDP 80 2	**14.6**	103	12420	139	96	124	137	69	90	110
HDP 80 2	**15.5**	97	11750	124	97	125	138	70	91	111
HDP 80 2	**18.0**	83	11950	109	97	125	138	70	91	111
HDP 80 2	**19.4**	77	11900	100	99	127	140	71	92	112
HDP 80 2	**22.6**	66	12600	91	—	—	—	71	92	112
HDP 80 3	**25.8**	58	9900	64	59	79	87	40	54	68
HDP 80 3	**30.0**	50	11500	64	59	79	87	40	54	68
HDP 80 3	**31.7**	47	11650	61	60	80	88	42	56	70
HDP 80 3	**36.8**	41	12600	57	—	—	—	42	56	70
HDP 80 3	**39.8**	38	12600	53	—	—	—	43	57	71
HDP 80 3	**46.2**	32	12600	45	—	—	—	43	57	71
HDP 80 3	**51.6**	29.1	11950	39	—	—	—	—	—	—
HDP 80 3	**59.9**	25.0	12600	35	—	—	—	—	—	—
HDP 80 3	**64.8**	23.1	12600	32	—	—	—	—	—	—
HDP 80 3	**75.2**	19.9	12600	28	—	—	—	—	—	—
HDP 80 3	**76.4**	19.6	12000	26	—	—	—	—	—	—
HDP 80 3	**88.7**	16.9	12600	24	—	—	—	—	—	—
HDP 80 3	**95.9**	15.6	12600	22	—	—	—	—	—	—
HDP 80 3	**111.4**	13.5	12600	18.9	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

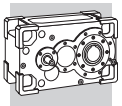


HDP 80 — n_1 = 1200 min^{-1}

					t_a = 20°C			t_a = 40°C		
	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TSR} [kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TSR} [kW]
HDP 80 2	**8.1**	149	10350	168	94	120	135	*	86	108
HDP 80 2	**9.4**	128	11430	160	94	120	135	67	86	108
HDP 80 2	**9.8**	122	11350	151	96	122	137	68	87	109
HDP 80 2	**11.4**	105	12300	141	96	122	137	68	87	109
HDP 80 2	**12.6**	95	11500	119	97	123	138	70	89	111
HDP 80 2	**14.6**	82	12500	112	97	123	138	70	89	111
HDP 80 2	**15.5**	77	11750	99	98	124	139	71	90	112
HDP 80 2	**18.0**	67	11950	87	—	—	—	71	90	112
HDP 80 2	**19.4**	62	11900	80	—	—	—	72	91	113
HDP 80 2	**22.6**	53	12600	73	—	—	—	72	91	113
HDP 80 3	**25.8**	47	9900	51	—	—	—	43	56	71
HDP 80 3	**30.0**	40	11500	51	—	—	—	43	56	71
HDP 80 3	**31.7**	38	11650	49	—	—	—	44	57	72
HDP 80 3	**36.8**	33	12600	46	—	—	—	44	57	72
HDP 80 3	**39.8**	30	12600	42	—	—	—	—	—	—
HDP 80 3	**46.2**	26.0	12600	36	—	—	—	—	—	—
HDP 80 3	**51.6**	23.2	11950	31	—	—	—	—	—	—
HDP 80 3	**59.9**	20.0	12600	28	—	—	—	—	—	—
HDP 80 3	**64.8**	18.5	12600	26	—	—	—	—	—	—
HDP 80 3	**75.2**	15.9	12600	22	—	—	—	—	—	—
HDP 80 3	**76.4**	15.7	12000	21	—	—	—	—	—	—
HDP 80 3	**88.7**	13.5	12600	19.0	—	—	—	—	—	—
HDP 80 3	**95.9**	12.5	12600	17.5	—	—	—	—	—	—
HDP 80 3	**111.4**	10.8	12600	15.1	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary



HDP 80 — n_1 = 1000 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 20°C			t_a = 40°C		
					P_T [kW]	$P_{TFANL\,/\,R}$ [kW]	P_{TSR} [kW]	P_T [kW]	$P_{TFANL\,/\,R}$ [kW]	P_{TSR} [kW]
HDP 80 2	**8.1**	124	10350	140	96	116	137	68	83	109
HDP 80 2	**9.4**	107	12050	140	96	116	137	68	83	109
HDP 80 2	**9.8**	102	11350	126	97	117	138	70	85	111
HDP 80 2	**11.4**	88	12350	118	97	117	138	70	85	111
HDP 80 2	**12.6**	79	11500	100	98	118	139	71	86	112
HDP 80 2	**14.6**	68	12500	93	—	—	—	71	86	112
HDP 80 2	**15.5**	65	11750	83	—	—	—	72	87	113
HDP 80 2	**18.0**	56	11950	72	—	—	—	72	87	113
HDP 80 2	**19.4**	51	11900	67	—	—	—	—	—	—
HDP 80 2	**22.6**	44	12600	61	—	—	—	—	—	—
HDP 80 3	**25.8**	39	9900	43	—	—	—	—	—	—
HDP 80 3	**30.0**	33	11500	43	—	—	—	—	—	—
HDP 80 3	**31.7**	32	11650	41	—	—	—	—	—	—
HDP 80 3	**36.8**	27.2	12600	38	—	—	—	—	—	—
HDP 80 3	**39.8**	25.1	12600	35	—	—	—	—	—	—
HDP 80 3	**46.2**	21.6	12600	30	—	—	—	—	—	—
HDP 80 3	**51.6**	19.4	11950	26	—	—	—	—	—	—
HDP 80 3	**59.9**	16.7	12600	23	—	—	—	—	—	—
HDP 80 3	**64.8**	15.4	12600	22	—	—	—	—	—	—
HDP 80 3	**75.2**	13.3	12600	18.6	—	—	—	—	—	—
HDP 80 3	**76.4**	13.1	12000	17.5	—	—	—	—	—	—
HDP 80 3	**88.7**	11.3	12600	15.8	—	—	—	—	—	—
HDP 80 3	**95.9**	10.4	12600	14.6	—	—	—	—	—	—
HDP 80 3	**111.4**	9.0	12600	12.6	—	—	—	—	—	—

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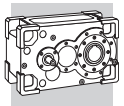
— Thermal verification not necessary



HDP 90											n_1 = 1800 min^{-1}
					t_a = 20°C			t_a = 40°C			
	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TSR} [kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TSR} [kW]	
HDP 90 2	**7.9**	227	12910	320	*	154	163	*	*	*	
HDP 90 2	**8.8**	204	13510	300	*	154	163	*	*	127	
HDP 90 2	**10.1**	179	14010	273	119	158	167	*	111	131	
HDP 90 2	**11.2**	161	14620	256	119	158	167	*	111	131	
HDP 90 2	**12.2**	147	14840	238	122	161	170	*	114	134	
HDP 90 2	**13.6**	132	15560	225	122	161	170	*	114	134	
HDP 90 2	**15.8**	114	15830	197	125	164	173	89	117	137	
HDP 90 2	**17.6**	102	16930	189	125	164	173	89	117	137	
HDP 90 2	**20.1**	90	16990	166	127	166	175	91	119	139	
HDP 90 2	**22.4**	80	17120	150	127	166	175	91	119	139	
HDP 90 3	**25.4**	71	16110	127	72	99	94	*	67	69	
HDP 90 3	**28.3**	64	16710	118	72	99	94	*	67	69	
HDP 90 3	**32.9**	55	17210	105	74	101	96	50	70	72	
HDP 90 3	**36.6**	49	17120	94	74	101	96	50	70	72	
HDP 90 3	**40.0**	45	16660	83	76	103	98	51	71	73	
HDP 90 3	**44.6**	40	17120	77	76	103	98	51	71	73	
HDP 90 3	**51.8**	35	17900	69	—	—	—	53	73	75	
HDP 90 3	**57.7**	31	17120	59	—	—	—	53	73	75	
HDP 90 3	**65.8**	27.3	17900	54	—	—	—	—	—	—	
HDP 90 3	**73.3**	24.6	17120	47	—	—	—	—	—	—	
HDP 90 3	**77.8**	23.1	17820	46	—	—	—	—	—	—	
HDP 90 3	**86.6**	20.8	17120	40	—	—	—	—	—	—	
HDP 90 3	**98.9**	18.2	17900	36	—	—	—	—	—	—	
HDP 90 3	**110.1**	16.3	17120	31	—	—	—	—	—	—	

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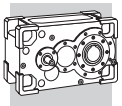

HDP 90 — n_1 = 1500 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 20°C			t_a = 40°C		
					P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TSR} [kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TSR} [kW]
HDP 90 2	**7.9**	189	13620	281	119	153	167	*	*	131
HDP 90 2	**8.8**	170	14280	265	119	153	167	*	108	131
HDP 90 2	**10.1**	149	14770	240	122	156	170	*	111	134
HDP 90 2	**11.2**	134	15470	226	122	156	170	*	111	134
HDP 90 2	**12.2**	123	15640	209	125	159	173	89	114	137
HDP 90 2	**13.6**	110	16460	198	125	159	173	89	114	137
HDP 90 2	**15.8**	95	16730	173	127	161	175	91	116	139
HDP 90 2	**17.6**	85	17120	159	127	161	175	91	116	139
HDP 90 2	**20.1**	75	17700	144	128	162	176	92	117	140
HDP 90 2	**22.4**	67	17120	125	—	—	—	92	117	140
HDP 90 3	**25.4**	59	17000	112	76	99	98	51	68	73
HDP 90 3	**28.3**	53	17120	101	76	99	98	51	68	73
HDP 90 3	**32.9**	46	17900	91	78	101	100	53	70	75
HDP 90 3	**36.6**	41	17120	78	78	101	100	53	70	75
HDP 90 3	**40.0**	37	17600	73	—	—	—	55	72	77
HDP 90 3	**44.6**	34	17120	64	—	—	—	55	72	77
HDP 90 3	**51.8**	29.0	17900	58	—	—	—	56	73	78
HDP 90 3	**57.7**	26.0	17120	50	—	—	—	—	—	—
HDP 90 3	**65.8**	22.8	17900	45	—	—	—	—	—	—
HDP 90 3	**73.3**	20.5	17120	39	—	—	—	—	—	—
HDP 90 3	**77.8**	19.3	17900	38	—	—	—	—	—	—
HDP 90 3	**86.6**	17.3	17120	33	—	—	—	—	—	—
HDP 90 3	**98.9**	15.2	17900	30	—	—	—	—	—	—
HDP 90 3	**110.1**	13.6	17120	26	—	—	—	—	—	—

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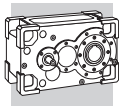

HDP 90 — n_1 = 1200 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 20°C			t_a = 40°C		
					P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TSR} [kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TSR} [kW]
HDP 90 2	**7.9**	151	14000	231	122	152	170	*	108	134
HDP 90 2	**8.8**	136	15230	226	122	152	170	*	108	134
HDP 90 2	**10.1**	119	15830	206	125	155	173	89	111	137
HDP 90 2	**11.2**	107	16530	193	125	155	173	89	111	137
HDP 90 2	**12.2**	98	16750	179	127	157	175	91	113	139
HDP 90 2	**13.6**	88	17120	165	127	157	175	91	113	139
HDP 90 2	**15.8**	76	17000	141	128	158	176	92	114	140
HDP 90 2	**17.6**	68	17120	127	—	—	—	92	114	140
HDP 90 2	**20.1**	60	17700	115	—	—	—	93	115	141
HDP 90 2	**22.4**	54	17120	100	—	—	—	93	115	141
HDP 90 3	**25.4**	47	17900	94	79	100	101	55	70	77
HDP 90 3	**28.3**	42	17120	81	79	100	101	55	70	77
HDP 90 3	**32.9**	36	17900	73	—	—	—	56	71	78
HDP 90 3	**36.6**	33	17120	62	—	—	—	56	71	78
HDP 90 3	**40.0**	30	17900	60	—	—	—	57	72	79
HDP 90 3	**44.6**	26.9	17120	51	—	—	—	—	—	—
HDP 90 3	**51.8**	23.2	17900	46	—	—	—	—	—	—
HDP 90 3	**57.7**	20.8	17120	40	—	—	—	—	—	—
HDP 90 3	**65.8**	18.2	17900	36	—	—	—	—	—	—
HDP 90 3	**73.3**	16.4	17120	31	—	—	—	—	—	—
HDP 90 3	**77.8**	15.4	17900	31	—	—	—	—	—	—
HDP 90 3	**86.6**	13.8	17120	26	—	—	—	—	—	—
HDP 90 3	**98.9**	12.1	17900	24	—	—	—	—	—	—
HDP 90 3	**110.1**	10.9	17120	21	—	—	—	—	—	—

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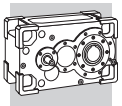

HDP 90 — n_1 = 1000 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 20°C P_T [kW]	t_a = 20°C $P_{TFANL/R}$ [kW]	t_a = 20°C P_{TSR} [kW]	t_a = 40°C P_T [kW]	t_a = 40°C $P_{TFANL/R}$ [kW]	t_a = 40°C P_{TSR} [kW]
HDP 90 2	**7.9**	126	14000	193	124	148	172	88	105	136
HDP 90 2	**8.8**	113	15600	193	124	148	172	88	105	136
HDP 90 2	**10.1**	99	16710	181	126	150	174	90	107	138
HDP 90 2	**11.2**	89	17120	167	126	150	174	90	107	138
HDP 90 2	**12.2**	82	17680	158	128	152	176	92	109	140
HDP 90 2	**13.6**	74	17120	137	128	152	176	92	109	140
HDP 90 2	**15.8**	63	17000	117	—	—	—	93	110	141
HDP 90 2	**17.6**	57	17120	106	—	—	—	93	110	141
HDP 90 2	**20.1**	50	17700	96	—	—	—	94	111	142
HDP 90 2	**22.4**	45	17120	83	—	—	—	—	—	—
HDP 90 3	**25.4**	39	17900	78	—	—	—	57	69	79
HDP 90 3	**28.3**	35	17120	67	—	—	—	57	69	79
HDP 90 3	**32.9**	30	17900	61	—	—	—	58	70	80
HDP 90 3	**36.6**	27.3	17120	52	—	—	—	—	—	—
HDP 90 3	**40.0**	25.0	17900	50	—	—	—	—	—	—
HDP 90 3	**44.6**	22.4	17120	43	—	—	—	—	—	—
HDP 90 3	**51.8**	19.3	17900	38	—	—	—	—	—	—
HDP 90 3	**57.7**	17.3	17120	33	—	—	—	—	—	—
HDP 90 3	**65.8**	15.2	17900	30	—	—	—	—	—	—
HDP 90 3	**73.3**	13.6	17120	26	—	—	—	—	—	—
HDP 90 3	**77.8**	12.9	17900	26	—	—	—	—	—	—
HDP 90 3	**86.6**	11.5	17120	22	—	—	—	—	—	—
HDP 90 3	**98.9**	10.1	17900	20	—	—	—	—	—	—
HDP 90 3	**110.1**	9.1	17120	17.3	—	—	—	—	—	—

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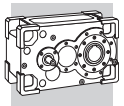

HDP 100 — n_1 = 1800 min^{-1}

					t_a = 20°C							
	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 100 2	**7.4**	243	20310	539	*	*	230	266	344	*	*	301
HDP 100 2	**8.2**	219	22760	543	*	*	233	269	347	*	*	304
HDP 100 2	**9.1**	198	21360	460	*	199	245	281	359	194	222	316
HDP 100 2	**10.1**	178	23950	465	*	201	247	283	361	196	224	318
HDP 100 2	**11.3**	160	22520	393	*	211	257	293	371	206	234	328
HDP 100 2	**12.5**	144	24750	389	*	213	259	295	373	208	236	330
HDP 100 2	**14.2**	127	23550	326	*	221	267	303	381	216	244	338
HDP 100 2	**15.7**	114	24700	308	130	223	269	305	383	218	246	340
HDP 100 2	**18.0**	100	24740	270	136	229	275	311	—	224	252	346
HDP 100 2	**20.0**	90	24530	241	137	230	276	312	—	225	253	—
HDP 100 2	**21.8**	83	22900	206	138	231	—	313	—	226	254	—
HDP 100 3	**22.8**	79	22050	194	99	162	192	226	—	162	183	251
HDP 100 3	**25.3**	71	23480	186	100	163	193	227	—	163	184	252
HDP 100 3	**28.1**	64	23210	165	102	165	195	229	—	165	186	—
HDP 100 3	**31.3**	58	23480	150	103	166	—	230	—	166	187	—
HDP 100 3	**35.4**	51	24250	137	105	168	—	232	—	168	189	—
HDP 100 3	**39.3**	46	23480	120	105	168	—	232	—	168	189	—
HDP 100 3	**45.0**	40	25410	113	107	170	—	234	—	170	191	—
HDP 100 3	**50.0**	36	23480	94	—	—	—	—	—	—	—	—
HDP 100 3	**55.5**	32	25730	93	—	—	—	—	—	—	—	—
HDP 100 3	**61.7**	29.2	23480	76	—	—	—	—	—	—	—	—
HDP 100 3	**69.9**	25.7	25620	73	—	—	—	—	—	—	—	—
HDP 100 3	**77.7**	23.2	23480	61	—	—	—	—	—	—	—	—
HDP 100 3	**88.9**	20.3	26110	59	—	—	—	—	—	—	—	—
HDP 100 3	**98.8**	18.2	23480	48	—	—	—	—	—	—	—	—
HDP 100 3	**107.6**	16.7	22050	41	—	—	—	—	—	—	—	—
HDP 100 4	**110.6**	16.3	24800	46	—	—	—	—	—	—	—	—
HDP 100 4	**122.9**	14.6	23480	39	—	—	—	—	—	—	—	—
HDP 100 4	**139.2**	12.9	25960	38	—	—	—	—	—	—	—	—
HDP 100 4	**154.7**	11.6	23480	31	—	—	—	—	—	—	—	—
HDP 100 4	**177.0**	10.2	26450	31	—	—	—	—	—	—	—	—
HDP 100 4	**196.7**	9.2	23480	24	—	—	—	—	—	—	—	—
HDP 100 4	**222.2**	8.1	26450	24	—	—	—	—	—	—	—	—
HDP 100 4	**246.9**	7.3	24880	21	—	—	—	—	—	—	—	—
HDP 100 4	**286.4**	6.3	26450	18.9	—	—	—	—	—	—	—	—
HDP 100 4	**318.3**	5.7	24890	16.0	—	—	—	—	—	—	—	—
HDP 100 4	**359.6**	5.0	26450	15.0	—	—	—	—	—	—	—	—
HDP 100 4	**399.5**	4.5	25280	12.9	—	—	—	—	—	—	—	—
HDP 100 4	**457.1**	3.9	28210	12.6	—	—	—	—	—	—	—	—
HDP 100 4	**507.9**	3.5	25410	10.2	—	—	—	—	—	—	—	—

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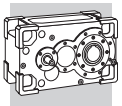

HDP 100 — n_1 = 1800 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 40°C							
		[min^{-1}]	[Nm]	[kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 100 2	**7.4**	243	20310	539	*	*	*	*	*	*	*	257
HDP 100 2	**8.2**	219	22760	543	*	*	*	*	*	*	*	260
HDP 100 2	**9.1**	198	21360	460	*	*	*	*	203	*	*	272
HDP 100 2	**10.1**	178	23950	465	*	*	*	*	205	*	*	274
HDP 100 2	**11.3**	160	22520	393	*	*	176	171	215	162	190	284
HDP 100 2	**12.5**	144	24750	389	*	*	177	172	216	163	191	285
HDP 100 2	**14.2**	127	23550	326	*	152	186	181	225	172	200	294
HDP 100 2	**15.7**	114	24700	308	*	153	187	182	226	173	201	295
HDP 100 2	**18.0**	100	24740	270	*	160	194	189	233	180	208	302
HDP 100 2	**20.0**	90	24530	241	*	161	195	190	234	181	209	303
HDP 100 2	**21.8**	83	22900	206	94	162	196	191	235	182	210	—
HDP 100 3	**22.8**	79	22050	194	*	111	133	136	167	128	149	217
HDP 100 3	**25.3**	71	23480	186	*	112	134	137	168	129	150	218
HDP 100 3	**28.1**	64	23210	165	68	114	136	139	170	131	152	220
HDP 100 3	**31.3**	58	23480	150	69	115	137	140	171	132	153	—
HDP 100 3	**35.4**	51	24250	137	71	117	139	142	—	134	155	—
HDP 100 3	**39.3**	46	23480	120	71	117	139	142	—	134	155	—
HDP 100 3	**45.0**	40	25410	113	73	119	—	144	—	136	157	—
HDP 100 3	**50.0**	36	23480	94	73	119	—	144	—	136	157	—
HDP 100 3	**55.5**	32	25730	93	80	126	—	151	—	143	164	—
HDP 100 3	**61.7**	29.2	23480	76	—	—	—	—	—	—	—	—
HDP 100 3	**69.9**	25.7	25620	73	—	—	—	—	—	—	—	—
HDP 100 3	**77.7**	23.2	23480	61	—	—	—	—	—	—	—	—
HDP 100 3	**88.9**	20.3	26110	59	—	—	—	—	—	—	—	—
HDP 100 3	**98.8**	18.2	23480	48	—	—	—	—	—	—	—	—
HDP 100 3	**107.6**	16.7	22050	41	—	—	—	—	—	—	—	—
HDP 100 4	**110.6**	16.3	24800	46	—	—	—	—	—	—	—	—
HDP 100 4	**122.9**	14.6	23480	39	—	—	—	—	—	—	—	—
HDP 100 4	**139.2**	12.9	25960	38	—	—	—	—	—	—	—	—
HDP 100 4	**154.7**	11.6	23480	31	—	—	—	—	—	—	—	—
HDP 100 4	**177.0**	10.2	26450	31	—	—	—	—	—	—	—	—
HDP 100 4	**196.7**	9.2	23480	24	—	—	—	—	—	—	—	—
HDP 100 4	**222.2**	8.1	26450	24	—	—	—	—	—	—	—	—
HDP 100 4	**246.9**	7.3	24880	21	—	—	—	—	—	—	—	—
HDP 100 4	**286.4**	6.3	26450	18.9	—	—	—	—	—	—	—	—
HDP 100 4	**318.3**	5.7	24890	16.0	—	—	—	—	—	—	—	—
HDP 100 4	**359.6**	5.0	26450	15.0	—	—	—	—	—	—	—	—
HDP 100 4	**399.5**	4.5	25280	12.9	—	—	—	—	—	—	—	—
HDP 100 4	**457.1**	3.9	28210	12.6	—	—	—	—	—	—	—	—
HDP 100 4	**507.9**	3.5	25410	10.2	—	—	—	—	—	—	—	—

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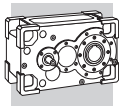

HDP 100 — n_1 = 1500 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 20°C							
		[min^{-1}]	[Nm]	[kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 100 2	**7.4**	203	21450	474	*	*	229	283	361	196	224	318
HDP 100 2	**8.2**	182	24040	478	*	*	231	285	363	198	226	320
HDP 100 2	**9.1**	165	22560	405	*	200	240	294	372	207	235	329
HDP 100 2	**10.1**	148	24740	400	*	202	242	296	374	209	237	331
HDP 100 2	**11.3**	133	23790	346	*	210	250	304	382	217	245	339
HDP 100 2	**12.5**	120	24740	324	130	211	251	305	383	218	246	340
HDP 100 2	**14.2**	106	24880	287	137	218	258	312	—	225	253	347
HDP 100 2	**15.7**	95	24570	255	138	219	259	313	—	226	254	348
HDP 100 2	**18.0**	83	25890	235	143	224	264	318	—	231	259	—
HDP 100 2	**20.0**	75	24410	200	144	225	—	319	—	232	260	—
HDP 100 2	**21.8**	69	22790	171	144	225	—	319	—	232	260	—
HDP 100 3	**22.8**	66	23410	172	106	160	187	233	—	169	190	—
HDP 100 3	**25.3**	59	24260	160	106	160	187	233	—	169	190	—
HDP 100 3	**28.1**	53	24640	146	108	162	—	235	—	171	192	—
HDP 100 3	**31.3**	48	24140	129	108	162	—	235	—	171	192	—
HDP 100 3	**35.4**	42	25740	121	110	164	—	237	—	173	194	—
HDP 100 3	**39.3**	38	24030	102	—	—	—	—	—	—	—	—
HDP 100 3	**45.0**	33	25740	95	—	—	—	—	—	—	—	—
HDP 100 3	**50.0**	30	23920	80	—	—	—	—	—	—	—	—
HDP 100 3	**55.5**	27.0	25650	77	—	—	—	—	—	—	—	—
HDP 100 3	**61.7**	24.3	23830	64	—	—	—	—	—	—	—	—
HDP 100 3	**69.9**	21.5	25880	62	—	—	—	—	—	—	—	—
HDP 100 3	**77.7**	19.3	24050	52	—	—	—	—	—	—	—	—
HDP 100 3	**88.9**	16.9	26850	50	—	—	—	—	—	—	—	—
HDP 100 3	**98.8**	15.2	24880	42	—	—	—	—	—	—	—	—
HDP 100 3	**107.6**	13.9	23340	36	—	—	—	—	—	—	—	—
HDP 100 4	**110.6**	13.6	26300	40	—	—	—	—	—	—	—	—
HDP 100 4	**122.9**	12.2	24880	34	—	—	—	—	—	—	—	—
HDP 100 4	**139.2**	10.8	27540	34	—	—	—	—	—	—	—	—
HDP 100 4	**154.7**	9.7	24880	27	—	—	—	—	—	—	—	—
HDP 100 4	**177.0**	8.5	28210	27	—	—	—	—	—	—	—	—
HDP 100 4	**196.7**	7.6	24880	22	—	—	—	—	—	—	—	—
HDP 100 4	**222.2**	6.8	28210	22	—	—	—	—	—	—	—	—
HDP 100 4	**246.9**	6.1	24880	17.2	—	—	—	—	—	—	—	—
HDP 100 4	**286.4**	5.2	28210	16.8	—	—	—	—	—	—	—	—
HDP 100 4	**318.3**	4.7	25110	13.4	—	—	—	—	—	—	—	—
HDP 100 4	**359.6**	4.2	28210	13.4	—	—	—	—	—	—	—	—
HDP 100 4	**399.5**	3.8	25410	10.8	—	—	—	—	—	—	—	—
HDP 100 4	**457.1**	3.3	28210	10.5	—	—	—	—	—	—	—	—
HDP 100 4	**507.9**	3.0	25410	8.5	—	—	—	—	—	—	—	—

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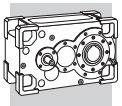

HDP 100 — n_1 = 1500 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 40°C							
					P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 100 2	**7.4**	203	21450	474	*	*	*	*	205	*	*	274
HDP 100 2	**8.2**	182	24040	478	*	*	*	*	207	*	*	276
HDP 100 2	**9.1**	165	22560	405	*	*	164	172	216	163	191	285
HDP 100 2	**10.1**	148	24740	400	*	*	166	174	218	165	193	287
HDP 100 2	**11.3**	133	23790	346	*	143	173	181	225	172	200	294
HDP 100 2	**12.5**	120	24740	324	*	145	175	183	227	174	202	296
HDP 100 2	**14.2**	106	24880	287	*	151	181	189	233	180	208	302
HDP 100 2	**15.7**	95	24570	255	*	152	182	190	234	181	209	303
HDP 100 2	**18.0**	83	25890	235	99	158	188	196	240	187	215	309
HDP 100 2	**20.0**	75	24410	200	99	158	188	196	240	187	215	—
HDP 100 2	**21.8**	69	22790	171	100	159	189	197	—	188	216	—
HDP 100 3	**22.8**	66	23410	172	72	112	131	143	174	135	156	224
HDP 100 3	**25.3**	59	24260	160	72	112	131	143	174	135	156	224
HDP 100 3	**28.1**	53	24640	146	74	114	133	145	176	137	158	—
HDP 100 3	**31.3**	48	24140	129	74	114	133	145	—	137	158	—
HDP 100 3	**35.4**	42	25740	121	76	116	135	147	—	139	160	—
HDP 100 3	**39.3**	38	24030	102	76	116	—	147	—	139	160	—
HDP 100 3	**45.0**	33	25740	95	77	117	—	148	—	140	161	—
HDP 100 3	**50.0**	30	23920	80	77	117	—	148	—	140	161	—
HDP 100 3	**55.5**	27.0	25650	77	—	—	—	—	—	—	—	—
HDP 100 3	**61.7**	24.3	23830	64	—	—	—	—	—	—	—	—
HDP 100 3	**69.9**	21.5	25880	62	—	—	—	—	—	—	—	—
HDP 100 3	**77.7**	19.3	24050	52	—	—	—	—	—	—	—	—
HDP 100 3	**88.9**	16.9	26850	50	—	—	—	—	—	—	—	—
HDP 100 3	**98.8**	15.2	24880	42	—	—	—	—	—	—	—	—
HDP 100 3	**107.6**	13.9	23340	36	—	—	—	—	—	—	—	—
HDP 100 4	**110.6**	13.6	26300	40	—	—	—	—	—	—	—	—
HDP 100 4	**122.9**	12.2	24880	34	—	—	—	—	—	—	—	—
HDP 100 4	**139.2**	10.8	27540	34	—	—	—	—	—	—	—	—
HDP 100 4	**154.7**	9.7	24880	27	—	—	—	—	—	—	—	—
HDP 100 4	**177.0**	8.5	28210	27	—	—	—	—	—	—	—	—
HDP 100 4	**196.7**	7.6	24880	22	—	—	—	—	—	—	—	—
HDP 100 4	**222.2**	6.8	28210	22	—	—	—	—	—	—	—	—
HDP 100 4	**246.9**	6.1	24880	17.2	—	—	—	—	—	—	—	—
HDP 100 4	**286.4**	5.2	28210	16.8	—	—	—	—	—	—	—	—
HDP 100 4	**318.3**	4.7	25110	13.4	—	—	—	—	—	—	—	—
HDP 100 4	**359.6**	4.2	28210	13.4	—	—	—	—	—	—	—	—
HDP 100 4	**399.5**	3.8	25410	10.8	—	—	—	—	—	—	—	—
HDP 100 4	**457.1**	3.3	28210	10.5	—	—	—	—	—	—	—	—
HDP 100 4	**507.9**	3.0	25410	8.5	—	—	—	—	—	—	—	—

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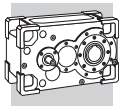

HDP 100 — n_1 = 1200 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 20°C							
		[min^{-1}]	[Nm]	[kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 100 2	**7.4**	162	22930	405	*	193	229	295	373	208	236	330
HDP 100 2	**8.2**	146	24750	394	*	195	231	297	375	210	238	332
HDP 100 2	**9.1**	132	24120	347	*	202	238	304	382	217	245	339
HDP 100 2	**10.1**	119	24730	320	131	204	240	306	384	219	247	341
HDP 100 2	**11.3**	107	25230	293	136	209	245	311	—	224	252	346
HDP 100 2	**12.5**	96	24580	257	137	210	246	312	—	225	253	347
HDP 100 2	**14.2**	85	25620	237	143	216	252	318	—	231	259	—
HDP 100 2	**15.7**	76	24420	203	143	216	—	318	—	231	259	—
HDP 100 2	**18.0**	67	25890	188	147	220	—	322	—	235	263	—
HDP 100 2	**20.0**	60	24270	159	148	221	—	323	—	236	264	—
HDP 100 2	**21.8**	55	22660	136	—	—	—	—	—	—	—	—
HDP 100 3	**22.8**	53	25030	147	110	159	—	237	—	173	194	—
HDP 100 3	**25.3**	47	24140	127	110	159	—	237	—	173	194	—
HDP 100 3	**28.1**	43	25870	123	112	161	—	239	—	175	196	—
HDP 100 3	**31.3**	38	24030	103	—	—	—	—	—	—	—	—
HDP 100 3	**35.4**	34	25750	97	—	—	—	—	—	—	—	—
HDP 100 3	**39.3**	31	23920	81	—	—	—	—	—	—	—	—
HDP 100 3	**45.0**	26.7	25640	76	—	—	—	—	—	—	—	—
HDP 100 3	**50.0**	24.0	23820	64	—	—	—	—	—	—	—	—
HDP 100 3	**55.5**	21.6	25850	62	—	—	—	—	—	—	—	—
HDP 100 3	**61.7**	19.4	24030	52	—	—	—	—	—	—	—	—
HDP 100 3	**69.9**	17.2	26780	51	—	—	—	—	—	—	—	—
HDP 100 3	**77.7**	15.4	24880	43	—	—	—	—	—	—	—	—
HDP 100 3	**88.9**	13.5	27810	42	—	—	—	—	—	—	—	—
HDP 100 3	**98.8**	12.2	24880	34	—	—	—	—	—	—	—	—
HDP 100 3	**107.6**	11.2	23870	30	—	—	—	—	—	—	—	—
HDP 100 4	**110.6**	10.8	26510	33	—	—	—	—	—	—	—	—
HDP 100 4	**122.9**	9.8	24880	28	—	—	—	—	—	—	—	—
HDP 100 4	**139.2**	8.6	27770	27	—	—	—	—	—	—	—	—
HDP 100 4	**154.7**	7.8	24880	22	—	—	—	—	—	—	—	—
HDP 100 4	**177.0**	6.8	28210	22	—	—	—	—	—	—	—	—
HDP 100 4	**196.7**	6.1	24880	17.2	—	—	—	—	—	—	—	—
HDP 100 4	**222.2**	5.4	28210	17.3	—	—	—	—	—	—	—	—
HDP 100 4	**246.9**	4.9	24990	13.8	—	—	—	—	—	—	—	—
HDP 100 4	**286.4**	4.2	28210	13.4	—	—	—	—	—	—	—	—
HDP 100 4	**318.3**	3.8	25410	10.9	—	—	—	—	—	—	—	—
HDP 100 4	**359.6**	3.3	28210	10.7	—	—	—	—	—	—	—	—
HDP 100 4	**399.5**	3.0	25410	8.7	—	—	—	—	—	—	—	—
HDP 100 4	**457.1**	2.6	28210	8.4	—	—	—	—	—	—	—	—
HDP 100 4	**507.9**	2.4	25410	6.8	—	—	—	—	—	—	—	—

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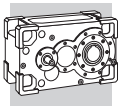
— Thermal verification not necessary



HDP 100

n_1 = 1200 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 40°C							
		[min^{-1}]	[Nm]	[kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 100 2	**7.4**	162	22930	405	*	*	*	173	217	164	192	286
HDP 100 2	**8.2**	146	24750	394	*	*	158	175	219	166	194	288
HDP 100 2	**9.1**	132	24120	347	*	*	165	182	226	173	201	295
HDP 100 2	**10.1**	119	24730	320	*	139	166	183	227	174	202	296
HDP 100 2	**11.3**	107	25230	293	*	145	172	189	233	180	208	302
HDP 100 2	**12.5**	96	24580	257	*	146	173	190	234	181	209	303
HDP 100 2	**14.2**	85	25620	237	98	151	178	195	239	186	214	308
HDP 100 2	**15.7**	76	24420	203	99	152	179	196	240	187	215	—
HDP 100 2	**18.0**	67	25890	188	103	156	183	200	—	191	219	—
HDP 100 2	**20.0**	60	24270	159	104	157	184	201	—	192	220	—
HDP 100 2	**21.8**	55	22660	136	104	157	—	201	—	192	220	—
HDP 100 3	**22.8**	53	25030	147	76	112	129	147	—	139	160	—
HDP 100 3	**25.3**	47	24140	127	76	112	129	147	—	139	160	—
HDP 100 3	**28.1**	43	25870	123	78	114	131	149	—	141	162	—
HDP 100 3	**31.3**	38	24030	103	78	114	—	149	—	141	162	—
HDP 100 3	**35.4**	34	25750	97	79	115	—	150	—	142	163	—
HDP 100 3	**39.3**	31	23920	81	79	115	—	150	—	142	163	—
HDP 100 3	**45.0**	26.7	25640	76	—	—	—	—	—	—	—	—
HDP 100 3	**50.0**	24.0	23820	64	—	—	—	—	—	—	—	—
HDP 100 3	**55.5**	21.6	25850	62	—	—	—	—	—	—	—	—
HDP 100 3	**61.7**	19.4	24030	52	—	—	—	—	—	—	—	—
HDP 100 3	**69.9**	17.2	26780	51	—	—	—	—	—	—	—	—
HDP 100 3	**77.7**	15.4	24880	43	—	—	—	—	—	—	—	—
HDP 100 3	**88.9**	13.5	27810	42	—	—	—	—	—	—	—	—
HDP 100 3	**98.8**	12.2	24880	34	—	—	—	—	—	—	—	—
HDP 100 3	**107.6**	11.2	23870	30	—	—	—	—	—	—	—	—
HDP 100 4	**110.6**	10.8	26510	33	—	—	—	—	—	—	—	—
HDP 100 4	**122.9**	9.8	24880	28	—	—	—	—	—	—	—	—
HDP 100 4	**139.2**	8.6	27770	27	—	—	—	—	—	—	—	—
HDP 100 4	**154.7**	7.8	24880	22	—	—	—	—	—	—	—	—
HDP 100 4	**177.0**	6.8	28210	22	—	—	—	—	—	—	—	—
HDP 100 4	**196.7**	6.1	24880	17.2	—	—	—	—	—	—	—	—
HDP 100 4	**222.2**	5.4	28210	17.3	—	—	—	—	—	—	—	—
HDP 100 4	**246.9**	4.9	24990	13.8	—	—	—	—	—	—	—	—
HDP 100 4	**286.4**	4.2	28210	13.4	—	—	—	—	—	—	—	—
HDP 100 4	**318.3**	3.8	25410	10.9	—	—	—	—	—	—	—	—
HDP 100 4	**359.6**	3.3	28210	10.7	—	—	—	—	—	—	—	—
HDP 100 4	**399.5**	3.0	25410	8.7	—	—	—	—	—	—	—	—
HDP 100 4	**457.1**	2.6	28210	8.4	—	—	—	—	—	—	—	—
HDP 100 4	**507.9**	2.4	25410	6.8	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

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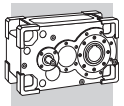
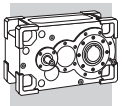


HDP 100 — n_1 = 1000 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 20°C							
		[min^{-1}]	[Nm]	[kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 100 2	**7.4**	135	24220	357	*	186	214	304	382	217	245	339
HDP 100 2	**8.2**	122	24750	328	*	187	215	305	383	218	246	340
HDP 100 2	**9.1**	110	24840	297	136	193	221	311	—	224	252	346
HDP 100 2	**10.1**	99	24600	265	137	194	222	312	—	225	253	347
HDP 100 2	**11.3**	89	25490	247	142	199	227	317	—	230	258	—
HDP 100 2	**12.5**	80	24450	213	143	200	228	318	—	231	259	—
HDP 100 2	**14.2**	71	25620	197	147	204	—	322	—	235	263	—
HDP 100 2	**15.7**	64	24300	168	147	204	—	322	—	235	263	—
HDP 100 2	**18.0**	56	25890	157	151	208	—	326	—	239	267	—
HDP 100 2	**20.0**	50	24170	132	—	—	—	—	—	—	—	—
HDP 100 2	**21.8**	46	22570	113	—	—	—	—	—	—	—	—
HDP 100 3	**22.8**	44	25880	126	113	151	—	240	—	176	197	—
HDP 100 3	**25.3**	40	24040	106	—	—	—	—	—	—	—	—
HDP 100 3	**28.1**	36	25880	102	—	—	—	—	—	—	—	—
HDP 100 3	**31.3**	32	23950	85	—	—	—	—	—	—	—	—
HDP 100 3	**35.4**	28.2	25670	81	—	—	—	—	—	—	—	—
HDP 100 3	**39.3**	25.4	23850	67	—	—	—	—	—	—	—	—
HDP 100 3	**45.0**	22.2	25740	64	—	—	—	—	—	—	—	—
HDP 100 3	**50.0**	20.0	23920	53	—	—	—	—	—	—	—	—
HDP 100 3	**55.5**	18.0	26590	53	—	—	—	—	—	—	—	—
HDP 100 3	**61.7**	16.2	24720	45	—	—	—	—	—	—	—	—
HDP 100 3	**69.9**	14.3	27560	44	—	—	—	—	—	—	—	—
HDP 100 3	**77.7**	12.9	24880	36	—	—	—	—	—	—	—	—
HDP 100 3	**88.9**	11.3	28210	35	—	—	—	—	—	—	—	—
HDP 100 3	**98.8**	10.1	24880	28	—	—	—	—	—	—	—	—
HDP 100 3	**107.6**	9.3	23870	25	—	—	—	—	—	—	—	—
HDP 100 4	**110.6**	9.0	28210	29	—	—	—	—	—	—	—	—
HDP 100 4	**122.9**	8.1	24880	23	—	—	—	—	—	—	—	—
HDP 100 4	**139.2**	7.2	28210	23	—	—	—	—	—	—	—	—
HDP 100 4	**154.7**	6.5	24880	18.3	—	—	—	—	—	—	—	—
HDP 100 4	**177.0**	5.6	28210	18.1	—	—	—	—	—	—	—	—
HDP 100 4	**196.7**	5.1	24890	14.4	—	—	—	—	—	—	—	—
HDP 100 4	**222.2**	4.5	28210	14.4	—	—	—	—	—	—	—	—
HDP 100 4	**246.9**	4.1	25410	11.7	—	—	—	—	—	—	—	—
HDP 100 4	**286.4**	3.5	28210	11.2	—	—	—	—	—	—	—	—
HDP 100 4	**318.3**	3.1	25410	9.1	—	—	—	—	—	—	—	—
HDP 100 4	**359.6**	2.8	28210	8.9	—	—	—	—	—	—	—	—
HDP 100 4	**399.5**	2.5	25410	7.2	—	—	—	—	—	—	—	—
HDP 100 4	**457.1**	2.2	28210	7.0	—	—	—	—	—	—	—	—
HDP 100 4	**507.9**	2.0	25410	5.7	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary



HDP 100

n_1 = 1000 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 40°C							
					P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 100 2	**7.4**	135	24220	357	*	*	147	182	226	173	201	295
HDP 100 2	**8.2**	122	24750	328	*	*	148	183	227	174	202	296
HDP 100 2	**9.1**	110	24840	297	*	134	154	189	233	180	208	302
HDP 100 2	**10.1**	99	24600	265	*	135	155	190	234	181	209	303
HDP 100 2	**11.3**	89	25490	247	*	140	160	195	239	186	214	308
HDP 100 2	**12.5**	80	24450	213	98	140	160	195	239	186	214	—
HDP 100 2	**14.2**	71	25620	197	103	145	165	200	—	191	219	—
HDP 100 2	**15.7**	64	24300	168	103	145	165	200	—	191	219	—
HDP 100 2	**18.0**	56	25890	157	106	148	168	203	—	194	222	—
HDP 100 2	**20.0**	50	24170	132	107	149	—	204	—	195	223	—
HDP 100 2	**21.8**	46	22570	113	107	149	—	204	—	195	223	—
HDP 100 3	**22.8**	44	25880	126	79	107	120	150	—	142	163	—
HDP 100 3	**25.3**	40	24040	106	79	107	—	150	—	142	163	—
HDP 100 3	**28.1**	36	25880	102	81	109	—	152	—	144	165	—
HDP 100 3	**31.3**	32	23950	85	81	109	—	152	—	144	165	—
HDP 100 3	**35.4**	28.2	25670	81	—	—	—	—	—	—	—	—
HDP 100 3	**39.3**	25.4	23850	67	—	—	—	—	—	—	—	—
HDP 100 3	**45.0**	22.2	25740	64	—	—	—	—	—	—	—	—
HDP 100 3	**50.0**	20.0	23920	53	—	—	—	—	—	—	—	—
HDP 100 3	**55.5**	18.0	26590	53	—	—	—	—	—	—	—	—
HDP 100 3	**61.7**	16.2	24720	45	—	—	—	—	—	—	—	—
HDP 100 3	**69.9**	14.3	27560	44	—	—	—	—	—	—	—	—
HDP 100 3	**77.7**	12.9	24880	36	—	—	—	—	—	—	—	—
HDP 100 3	**88.9**	11.3	28210	35	—	—	—	—	—	—	—	—
HDP 100 3	**98.8**	10.1	24880	28	—	—	—	—	—	—	—	—
HDP 100 3	**107.6**	9.3	23870	25	—	—	—	—	—	—	—	—
HDP 100 4	**110.6**	9.0	28210	29	—	—	—	—	—	—	—	—
HDP 100 4	**122.9**	8.1	24880	23	—	—	—	—	—	—	—	—
HDP 100 4	**139.2**	7.2	28210	23	—	—	—	—	—	—	—	—
HDP 100 4	**154.7**	6.5	24880	18.3	—	—	—	—	—	—	—	—
HDP 100 4	**177.0**	5.6	28210	18.1	—	—	—	—	—	—	—	—
HDP 100 4	**196.7**	5.1	24890	14.4	—	—	—	—	—	—	—	—
HDP 100 4	**222.2**	4.5	28210	14.4	—	—	—	—	—	—	—	—
HDP 100 4	**246.9**	4.1	25410	11.7	—	—	—	—	—	—	—	—
HDP 100 4	**286.4**	3.5	28210	11.2	—	—	—	—	—	—	—	—
HDP 100 4	**318.3**	3.1	25410	9.1	—	—	—	—	—	—	—	—
HDP 100 4	**359.6**	2.8	28210	8.9	—	—	—	—	—	—	—	—
HDP 100 4	**399.5**	2.5	25410	7.2	—	—	—	—	—	—	—	—
HDP 100 4	**457.1**	2.2	28210	7.0	—	—	—	—	—	—	—	—
HDP 100 4	**507.9**	2.0	25410	5.7	—	—	—	—	—	—	—	—

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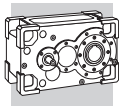

HDP 110 — n_1 = 1800 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 20°C							
		[min^{-1}]	[Nm]	[kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 110 2	**8.1**	223	23430	569	*	*	*	262	340	*	*	297
HDP 110 2	**9.0**	201	24780	543	*	*	229	265	343	*	*	300
HDP 110 2	**9.9**	181	24630	486	*	196	242	278	356	*	219	313
HDP 110 2	**11.0**	163	26540	473	*	198	244	280	358	193	221	315
HDP 110 2	**12.3**	146	25950	414	*	208	254	290	368	203	231	325
HDP 110 2	**13.6**	132	27970	403	*	210	256	292	370	205	233	327
HDP 110 2	**15.5**	116	27100	344	*	219	265	301	379	214	242	336
HDP 110 2	**17.1**	105	28660	328	*	221	267	303	381	216	244	338
HDP 110 2	**19.7**	92	27660	276	135	228	274	310	—	223	251	345
HDP 110 2	**21.8**	83	28990	261	136	229	275	311	—	224	252	346
HDP 110 2	**25.0**	72	27090	213	137	230	—	312	—	225	253	—
HDP 110 3	**24.9**	72	25300	204	99	192	238	274	—	187	215	—
HDP 110 3	**27.6**	65	26400	192	99	192	—	274	—	187	215	—
HDP 110 3	**30.7**	59	27110	177	102	195	—	277	—	190	218	—
HDP 110 3	**34.0**	53	28320	167	102	195	—	277	—	190	218	—
HDP 110 3	**38.7**	47	28270	146	104	197	—	279	—	192	220	—
HDP 110 3	**42.8**	42	29040	136	105	198	—	280	—	193	221	—
HDP 110 3	**49.2**	37	29090	118	106	199	—	281	—	194	222	—
HDP 110 3	**54.5**	33	29040	107	107	200	—	282	—	195	223	—
HDP 110 3	**60.7**	29.7	30740	101	—	—	—	—	—	—	—	—
HDP 110 3	**67.2**	26.8	29040	87	—	—	—	—	—	—	—	—
HDP 110 3	**76.4**	23.6	30960	81	—	—	—	—	—	—	—	—
HDP 110 3	**84.6**	21.3	29040	69	—	—	—	—	—	—	—	—
HDP 110 3	**97.1**	18.5	29090	60	—	—	—	—	—	—	—	—
HDP 110 3	**107.6**	16.7	29040	54	—	—	—	—	—	—	—	—
HDP 110 3	**123.4**	14.6	26010	42	—	—	—	—	—	—	—	—
HDP 110 4	**120.9**	14.9	28540	48	—	—	—	—	—	—	—	—
HDP 110 4	**133.9**	13.4	29040	44	—	—	—	—	—	—	—	—
HDP 110 4	**168.5**	10.7	29040	35	—	—	—	—	—	—	—	—
HDP 110 4	**191.0**	9.4	31570	34	—	—	—	—	—	—	—	—
HDP 110 4	**193.4**	9.3	29090	31	—	—	—	—	—	—	—	—
HDP 110 4	**214.2**	8.4	29040	28	—	—	—	—	—	—	—	—
HDP 110 4	**248.6**	7.2	31350	26	—	—	—	—	—	—	—	—
HDP 110 4	**275.4**	6.5	29040	22	—	—	—	—	—	—	—	—
HDP 110 4	**313.0**	5.8	31570	21	—	—	—	—	—	—	—	—
HDP 110 4	**346.7**	5.2	29040	17.1	—	—	—	—	—	—	—	—
HDP 110 4	**392.9**	4.6	31570	16.4	—	—	—	—	—	—	—	—
HDP 110 4	**440.7**	4.1	29040	13.5	—	—	—	—	—	—	—	—
HDP 110 4	**499.4**	3.6	29090	11.9	—	—	—	—	—	—	—	—

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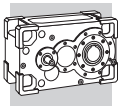
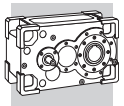


HDP 110 — n_1 = 1800 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 40°C							
					P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 110 2	**8.1**	223	23430	569	*	*	*	*	*	*	*	252
HDP 110 2	**9.0**	201	24780	543	*	*	*	*	*	*	*	256
HDP 110 2	**9.9**	181	24630	486	*	*	*	*	199	*	*	268
HDP 110 2	**11.0**	163	26540	473	*	*	*	*	202	*	*	271
HDP 110 2	**12.3**	146	25950	414	*	*	173	168	212	*	187	281
HDP 110 2	**13.6**	132	27970	403	*	*	175	170	214	*	189	283
HDP 110 2	**15.5**	116	27100	344	*	150	184	179	223	170	198	292
HDP 110 2	**17.1**	105	28660	328	*	151	185	180	224	171	199	293
HDP 110 2	**19.7**	92	27660	276	*	159	193	188	232	179	207	301
HDP 110 2	**21.8**	83	28990	261	*	160	194	189	233	180	208	302
HDP 110 2	**25.0**	72	27090	213	93	161	195	190	234	181	209	303
HDP 110 3	**24.9**	72	25300	204	*	133	167	162	206	153	181	275
HDP 110 3	**27.6**	65	26400	192	*	133	167	162	206	153	181	275
HDP 110 3	**30.7**	59	27110	177	*	136	170	165	209	156	184	—
HDP 110 3	**34.0**	53	28320	167	68	136	170	165	209	156	184	—
HDP 110 3	**38.7**	47	28270	146	70	138	172	167	—	158	186	—
HDP 110 3	**42.8**	42	29040	136	71	139	—	168	—	159	187	—
HDP 110 3	**49.2**	37	29090	118	72	140	—	169	—	160	188	—
HDP 110 3	**54.5**	33	29040	107	73	141	—	170	—	161	189	—
HDP 110 3	**60.7**	29.7	30740	101	80	148	—	177	—	168	196	—
HDP 110 3	**67.2**	26.8	29040	87	80	148	—	177	—	168	196	—
HDP 110 3	**76.4**	23.6	30960	81	—	—	—	—	—	—	—	—
HDP 110 3	**84.6**	21.3	29040	69	—	—	—	—	—	—	—	—
HDP 110 3	**97.1**	18.5	29090	60	—	—	—	—	—	—	—	—
HDP 110 3	**107.6**	16.7	29040	54	—	—	—	—	—	—	—	—
HDP 110 3	**123.4**	14.6	26010	42	—	—	—	—	—	—	—	—
HDP 110 4	**120.9**	14.9	28540	48	—	—	—	—	—	—	—	—
HDP 110 4	**133.9**	13.4	29040	44	—	—	—	—	—	—	—	—
HDP 110 4	**168.5**	10.7	29040	35	—	—	—	—	—	—	—	—
HDP 110 4	**191.0**	9.4	31570	34	—	—	—	—	—	—	—	—
HDP 110 4	**193.4**	9.3	29090	31	—	—	—	—	—	—	—	—
HDP 110 4	**214.2**	8.4	29040	28	—	—	—	—	—	—	—	—
HDP 110 4	**248.6**	7.2	31350	26	—	—	—	—	—	—	—	—
HDP 110 4	**275.4**	6.5	29040	22	—	—	—	—	—	—	—	—
HDP 110 4	**313.0**	5.8	31570	21	—	—	—	—	—	—	—	—
HDP 110 4	**346.7**	5.2	29040	17.1	—	—	—	—	—	—	—	—
HDP 110 4	**392.9**	4.6	31570	16.4	—	—	—	—	—	—	—	—
HDP 110 4	**440.7**	4.1	29040	13.5	—	—	—	—	—	—	—	—
HDP 110 4	**499.4**	3.6	29090	11.9	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary



HDP 110 — n_1 = 1500 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 20°C							
		[min^{-1}]	[Nm]	[kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 110 2	**8.1**	186	24740	500	*	*	244	280	358	*	221	315
HDP 110 2	**9.0**	167	26170	478	*	200	246	282	360	195	223	317
HDP 110 2	**9.9**	151	26010	428	*	210	256	292	370	205	233	327
HDP 110 2	**11.0**	136	27880	414	*	212	258	294	372	207	235	329
HDP 110 2	**12.3**	122	26940	358	*	220	266	302	380	215	243	337
HDP 110 2	**13.6**	110	28270	340	*	221	267	303	381	216	244	338
HDP 110 2	**15.5**	97	27330	289	135	228	274	310	—	223	251	345
HDP 110 2	**17.1**	88	28660	273	136	229	275	311	—	224	252	346
HDP 110 2	**19.7**	76	27660	230	142	235	—	317	—	230	258	—
HDP 110 2	**21.8**	69	28990	218	142	235	—	317	—	230	258	—
HDP 110 2	**25.0**	60	26960	176	143	236	—	318	—	231	259	—
HDP 110 3	**24.9**	60	26870	180	105	198	—	280	—	193	221	—
HDP 110 3	**27.6**	54	28010	170	105	198	—	280	—	193	221	—
HDP 110 3	**30.7**	49	28750	156	107	200	—	282	—	195	223	—
HDP 110 3	**34.0**	44	29540	145	108	201	—	283	—	196	224	—
HDP 110 3	**38.7**	39	30000	129	109	202	—	284	—	197	225	—
HDP 110 3	**42.8**	35	29400	115	109	202	—	284	—	197	225	—
HDP 110 3	**49.2**	31	31100	106	—	—	—	—	—	—	—	—
HDP 110 3	**54.5**	27.5	29270	90	—	—	—	—	—	—	—	—
HDP 110 3	**60.7**	24.7	30740	85	—	—	—	—	—	—	—	—
HDP 110 3	**67.2**	22.3	29160	72	—	—	—	—	—	—	—	—
HDP 110 3	**76.4**	19.6	31130	68	—	—	—	—	—	—	—	—
HDP 110 3	**84.6**	17.7	29430	58	—	—	—	—	—	—	—	—
HDP 110 3	**97.1**	15.4	31120	53	—	—	—	—	—	—	—	—
HDP 110 3	**107.6**	13.9	30550	47	—	—	—	—	—	—	—	—
HDP 110 3	**123.4**	12.2	27630	37	—	—	—	—	—	—	—	—
HDP 110 4	**120.9**	12.4	30410	43	—	—	—	—	—	—	—	—
HDP 110 4	**133.9**	11.2	31630	40	—	—	—	—	—	—	—	—
HDP 110 4	**168.5**	8.9	31790	32	—	—	—	—	—	—	—	—
HDP 110 4	**191.0**	7.9	31570	28	—	—	—	—	—	—	—	—
HDP 110 4	**193.4**	7.8	31570	28	—	—	—	—	—	—	—	—
HDP 110 4	**214.2**	7.0	31790	25	—	—	—	—	—	—	—	—
HDP 110 4	**248.6**	6.0	31350	21	—	—	—	—	—	—	—	—
HDP 110 4	**275.4**	5.4	31790	19.7	—	—	—	—	—	—	—	—
HDP 110 4	**313.0**	4.8	31570	17.2	—	—	—	—	—	—	—	—
HDP 110 4	**346.7**	4.3	31790	15.6	—	—	—	—	—	—	—	—
HDP 110 4	**392.9**	3.8	31570	13.7	—	—	—	—	—	—	—	—
HDP 110 4	**440.7**	3.4	31790	12.3	—	—	—	—	—	—	—	—
HDP 110 4	**499.4**	3.0	31570	10.8	—	—	—	—	—	—	—	—

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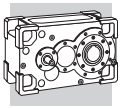
— Thermal verification not necessary



HDP 110 — n_1 = 1500 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 40°C							
					P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 110 2	**8.1**	186	24740	500	*	*	*	*	201	*	*	270
HDP 110 2	**9.0**	167	26170	478	*	*	*	*	204	*	*	273
HDP 110 2	**9.9**	151	26010	428	*	*	175	*	214	*	189	283
HDP 110 2	**11.0**	136	27880	414	*	*	176	171	215	*	190	284
HDP 110 2	**12.3**	122	26940	358	*	150	184	179	223	170	198	292
HDP 110 2	**13.6**	110	28270	340	*	152	186	181	225	172	200	294
HDP 110 2	**15.5**	97	27330	289	*	159	193	188	232	179	207	301
HDP 110 2	**17.1**	88	28660	273	*	160	194	189	233	180	208	302
HDP 110 2	**19.7**	76	27660	230	97	165	199	194	238	185	213	307
HDP 110 2	**21.8**	69	28990	218	98	166	200	195	239	186	214	308
HDP 110 2	**25.0**	60	26960	176	99	167	201	196	—	187	215	—
HDP 110 3	**24.9**	60	26870	180	*	139	173	168	212	159	187	—
HDP 110 3	**27.6**	54	28010	170	71	139	173	168	212	159	187	—
HDP 110 3	**30.7**	49	28750	156	73	141	175	170	—	161	189	—
HDP 110 3	**34.0**	44	29540	145	74	142	176	171	—	162	190	—
HDP 110 3	**38.7**	39	30000	129	75	143	—	172	—	163	191	—
HDP 110 3	**42.8**	35	29400	115	75	143	—	172	—	163	191	—
HDP 110 3	**49.2**	31	31100	106	77	145	—	174	—	165	193	—
HDP 110 3	**54.5**	27.5	29270	90	77	145	—	174	—	165	193	—
HDP 110 3	**60.7**	24.7	30740	85	83	151	—	180	—	171	199	—
HDP 110 3	**67.2**	22.3	29160	72	—	—	—	—	—	—	—	—
HDP 110 3	**76.4**	19.6	31130	68	—	—	—	—	—	—	—	—
HDP 110 3	**84.6**	17.7	29430	58	—	—	—	—	—	—	—	—
HDP 110 3	**97.1**	15.4	31120	53	—	—	—	—	—	—	—	—
HDP 110 3	**107.6**	13.9	30550	47	—	—	—	—	—	—	—	—
HDP 110 3	**123.4**	12.2	27630	37	—	—	—	—	—	—	—	—
HDP 110 4	**120.9**	12.4	30410	43	—	—	—	—	—	—	—	—
HDP 110 4	**133.9**	11.2	31630	40	—	—	—	—	—	—	—	—
HDP 110 4	**168.5**	8.9	31790	32	—	—	—	—	—	—	—	—
HDP 110 4	**191.0**	7.9	31570	28	—	—	—	—	—	—	—	—
HDP 110 4	**193.4**	7.8	31570	28	—	—	—	—	—	—	—	—
HDP 110 4	**214.2**	7.0	31790	25	—	—	—	—	—	—	—	—
HDP 110 4	**248.6**	6.0	31350	21	—	—	—	—	—	—	—	—
HDP 110 4	**275.4**	5.4	31790	19.7	—	—	—	—	—	—	—	—
HDP 110 4	**313.0**	4.8	31570	17.2	—	—	—	—	—	—	—	—
HDP 110 4	**346.7**	4.3	31790	15.6	—	—	—	—	—	—	—	—
HDP 110 4	**392.9**	3.8	31570	13.7	—	—	—	—	—	—	—	—
HDP 110 4	**440.7**	3.4	31790	12.3	—	—	—	—	—	—	—	—
HDP 110 4	**499.4**	3.0	31570	10.8	—	—	—	—	—	—	—	—

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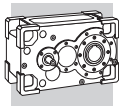
— Thermal verification not necessary



HDP 110 — n_1 = 1200 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 20°C							
		[min^{-1}]	[Nm]	[kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 110 2	**8.1**	148	26080	422	*	191	227	293	371	206	234	328
HDP 110 2	**9.0**	134	27420	401	*	192	228	294	372	207	235	329
HDP 110 2	**9.9**	121	26540	349	*	200	236	302	380	215	243	337
HDP 110 2	**11.0**	109	27880	331	*	202	238	304	382	217	245	339
HDP 110 2	**12.3**	98	26940	287	135	208	244	310	—	223	251	345
HDP 110 2	**13.6**	88	28270	272	136	209	245	311	—	224	252	346
HDP 110 2	**15.5**	78	27330	231	141	214	250	316	—	229	257	—
HDP 110 2	**17.1**	70	28660	219	142	215	251	317	—	230	258	—
HDP 110 2	**19.7**	61	27660	184	147	220	—	322	—	235	263	—
HDP 110 2	**21.8**	55	28990	174	147	220	—	322	—	235	263	—
HDP 110 2	**25.0**	48	26810	140	—	—	—	—	—	—	—	—
HDP 110 3	**24.9**	48	28730	154	110	159	—	237	—	173	194	—
HDP 110 3	**27.6**	44	29530	143	110	159	—	237	—	173	194	—
HDP 110 3	**30.7**	39	30740	134	111	160	—	238	—	174	195	—
HDP 110 3	**34.0**	35	29400	115	112	161	—	239	—	175	196	—
HDP 110 3	**38.7**	31	31110	107	—	—	—	—	—	—	—	—
HDP 110 3	**42.8**	28.0	29270	91	—	—	—	—	—	—	—	—
HDP 110 3	**49.2**	24.4	30980	84	—	—	—	—	—	—	—	—
HDP 110 3	**54.5**	22.0	29150	71	—	—	—	—	—	—	—	—
HDP 110 3	**60.7**	19.8	30740	68	—	—	—	—	—	—	—	—
HDP 110 3	**67.2**	17.8	29400	58	—	—	—	—	—	—	—	—
HDP 110 3	**76.4**	15.7	31130	54	—	—	—	—	—	—	—	—
HDP 110 3	**84.6**	14.2	30470	48	—	—	—	—	—	—	—	—
HDP 110 3	**97.1**	12.4	31350	43	—	—	—	—	—	—	—	—
HDP 110 3	**107.6**	11.2	31650	39	—	—	—	—	—	—	—	—
HDP 110 3	**123.4**	9.7	28180	30	—	—	—	—	—	—	—	—
HDP 110 4	**120.9**	9.9	31350	35	—	—	—	—	—	—	—	—
HDP 110 4	**133.9**	9.0	31790	32	—	—	—	—	—	—	—	—
HDP 110 4	**168.5**	7.1	31790	26	—	—	—	—	—	—	—	—
HDP 110 4	**191.0**	6.3	31570	23	—	—	—	—	—	—	—	—
HDP 110 4	**193.4**	6.2	31570	22	—	—	—	—	—	—	—	—
HDP 110 4	**214.2**	5.6	31790	20	—	—	—	—	—	—	—	—
HDP 110 4	**248.6**	4.8	31350	17.2	—	—	—	—	—	—	—	—
HDP 110 4	**275.4**	4.4	31790	15.7	—	—	—	—	—	—	—	—
HDP 110 4	**313.0**	3.8	31570	13.7	—	—	—	—	—	—	—	—
HDP 110 4	**346.7**	3.5	31790	12.5	—	—	—	—	—	—	—	—
HDP 110 4	**392.9**	3.1	31570	10.9	—	—	—	—	—	—	—	—
HDP 110 4	**440.7**	2.7	31790	9.8	—	—	—	—	—	—	—	—
HDP 110 4	**499.4**	2.4	31570	8.6	—	—	—	—	—	—	—	—

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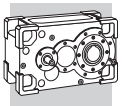
— Thermal verification not necessary



HDP 110 — n_1 = 1200 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 40°C							
					P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 110 2	**8.1**	148	26080	422	*	*	*	170	214	*	189	283
HDP 110 2	**9.0**	134	27420	401	*	*	*	172	216	163	191	285
HDP 110 2	**9.9**	121	26540	349	*	*	163	180	224	171	199	293
HDP 110 2	**11.0**	109	27880	331	*	137	164	181	225	172	200	294
HDP 110 2	**12.3**	98	26940	287	*	144	171	188	232	179	207	301
HDP 110 2	**13.6**	88	28270	272	*	145	172	189	233	180	208	302
HDP 110 2	**15.5**	78	27330	231	97	150	177	194	238	185	213	307
HDP 110 2	**17.1**	70	28660	219	98	151	178	195	239	186	214	308
HDP 110 2	**19.7**	61	27660	184	102	155	182	199	—	190	218	—
HDP 110 2	**21.8**	55	28990	174	103	156	183	200	—	191	219	—
HDP 110 2	**25.0**	48	26810	140	104	157	—	201	—	192	220	—
HDP 110 3	**24.9**	48	28730	154	75	111	128	146	177	138	159	—
HDP 110 3	**27.6**	44	29530	143	76	112	129	147	—	139	160	—
HDP 110 3	**30.7**	39	30740	134	77	113	130	148	—	140	161	—
HDP 110 3	**34.0**	35	29400	115	78	114	131	149	—	141	162	—
HDP 110 3	**38.7**	31	31110	107	79	115	—	150	—	142	163	—
HDP 110 3	**42.8**	28.0	29270	91	79	115	—	150	—	142	163	—
HDP 110 3	**49.2**	24.4	30980	84	80	116	—	151	—	143	164	—
HDP 110 3	**54.5**	22.0	29150	71	—	—	—	—	—	—	—	—
HDP 110 3	**60.7**	19.8	30740	68	—	—	—	—	—	—	—	—
HDP 110 3	**67.2**	17.8	29400	58	—	—	—	—	—	—	—	—
HDP 110 3	**76.4**	15.7	31130	54	—	—	—	—	—	—	—	—
HDP 110 3	**84.6**	14.2	30470	48	—	—	—	—	—	—	—	—
HDP 110 3	**97.1**	12.4	31350	43	—	—	—	—	—	—	—	—
HDP 110 3	**107.6**	11.2	31650	39	—	—	—	—	—	—	—	—
HDP 110 3	**123.4**	9.7	28180	30	—	—	—	—	—	—	—	—
HDP 110 4	**120.9**	9.9	31350	35	—	—	—	—	—	—	—	—
HDP 110 4	**133.9**	9.0	31790	32	—	—	—	—	—	—	—	—
HDP 110 4	**168.5**	7.1	31790	26	—	—	—	—	—	—	—	—
HDP 110 4	**191.0**	6.3	31570	23	—	—	—	—	—	—	—	—
HDP 110 4	**193.4**	6.2	31570	22	—	—	—	—	—	—	—	—
HDP 110 4	**214.2**	5.6	31790	20	—	—	—	—	—	—	—	—
HDP 110 4	**248.6**	4.8	31350	17.2	—	—	—	—	—	—	—	—
HDP 110 4	**275.4**	4.4	31790	15.7	—	—	—	—	—	—	—	—
HDP 110 4	**313.0**	3.8	31570	13.7	—	—	—	—	—	—	—	—
HDP 110 4	**346.7**	3.5	31790	12.5	—	—	—	—	—	—	—	—
HDP 110 4	**392.9**	3.1	31570	10.9	—	—	—	—	—	—	—	—
HDP 110 4	**440.7**	2.7	31790	9.8	—	—	—	—	—	—	—	—
HDP 110 4	**499.4**	2.4	31570	8.6	—	—	—	—	—	—	—	—

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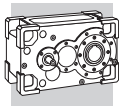

HDP 110 — n_1 = 1000 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 20°C							
		[min^{-1}]	[Nm]	[kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 110 2	**8.1**	124	26080	352	*	184	212	302	380	215	243	337
HDP 110 2	**9.0**	112	27420	334	*	185	213	303	381	216	244	338
HDP 110 2	**9.9**	101	26540	291	134	191	219	309	—	222	250	344
HDP 110 2	**11.0**	91	27880	276	136	193	221	311	—	224	252	346
HDP 110 2	**12.3**	81	26940	239	141	198	226	316	—	229	257	—
HDP 110 2	**13.6**	73	28270	226	141	198	226	316	—	229	257	—
HDP 110 2	**15.5**	65	27330	193	146	203	—	321	—	234	262	—
HDP 110 2	**17.1**	58	28660	182	146	203	—	321	—	234	262	—
HDP 110 2	**19.7**	51	27660	153	150	207	—	325	—	238	266	—
HDP 110 2	**21.8**	46	28990	145	—	—	—	—	—	—	—	—
HDP 110 2	**25.0**	40	26700	116	—	—	—	—	—	—	—	—
HDP 110 3	**24.9**	40	30340	136	113	151	—	240	—	176	197	—
HDP 110 3	**27.6**	36	29420	119	113	151	—	240	—	176	197	—
HDP 110 3	**30.7**	33	30740	111	—	—	—	—	—	—	—	—
HDP 110 3	**34.0**	29.4	29300	96	—	—	—	—	—	—	—	—
HDP 110 3	**38.7**	25.9	31010	89	—	—	—	—	—	—	—	—
HDP 110 3	**42.8**	23.3	29180	76	—	—	—	—	—	—	—	—
HDP 110 3	**49.2**	20.3	31100	70	—	—	—	—	—	—	—	—
HDP 110 3	**54.5**	18.4	29270	60	—	—	—	—	—	—	—	—
HDP 110 3	**60.7**	16.5	30740	56	—	—	—	—	—	—	—	—
HDP 110 3	**67.2**	14.9	30240	50	—	—	—	—	—	—	—	—
HDP 110 3	**76.4**	13.1	31130	45	—	—	—	—	—	—	—	—
HDP 110 3	**84.6**	11.8	31360	41	—	—	—	—	—	—	—	—
HDP 110 3	**97.1**	10.3	31350	36	—	—	—	—	—	—	—	—
HDP 110 3	**107.6**	9.3	31790	33	—	—	—	—	—	—	—	—
HDP 110 3	**123.4**	8.1	28180	25	—	—	—	—	—	—	—	—
HDP 110 4	**120.9**	8.3	31350	29	—	—	—	—	—	—	—	—
HDP 110 4	**133.9**	7.5	31790	27	—	—	—	—	—	—	—	—
HDP 110 4	**168.5**	5.9	31790	21	—	—	—	—	—	—	—	—
HDP 110 4	**191.0**	5.2	31570	18.8	—	—	—	—	—	—	—	—
HDP 110 4	**193.4**	5.2	31570	18.5	—	—	—	—	—	—	—	—
HDP 110 4	**214.2**	4.7	31790	16.8	—	—	—	—	—	—	—	—
HDP 110 4	**248.6**	4.0	31350	14.3	—	—	—	—	—	—	—	—
HDP 110 4	**275.4**	3.6	31790	13.1	—	—	—	—	—	—	—	—
HDP 110 4	**313.0**	3.2	31570	11.5	—	—	—	—	—	—	—	—
HDP 110 4	**346.7**	2.9	31790	10.4	—	—	—	—	—	—	—	—
HDP 110 4	**392.9**	2.5	31570	9.1	—	—	—	—	—	—	—	—
HDP 110 4	**440.7**	2.3	31790	8.2	—	—	—	—	—	—	—	—
HDP 110 4	**499.4**	2.0	31570	7.2	—	—	—	—	—	—	—	—

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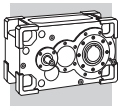

HDP 110 — n_1 = 1000 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 40°C							
					P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 110 2	**8.1**	124	26080	352	*	*	144	179	223	170	198	292
HDP 110 2	**9.0**	112	27420	334	*	*	146	181	225	172	200	294
HDP 110 2	**9.9**	101	26540	291	*	132	152	187	231	178	206	300
HDP 110 2	**11.0**	91	27880	276	*	133	153	188	232	179	207	301
HDP 110 2	**12.3**	81	26940	239	96	138	158	193	237	184	212	306
HDP 110 2	**13.6**	73	28270	226	97	139	159	194	238	185	213	307
HDP 110 2	**15.5**	65	27330	193	101	143	163	198	—	189	217	—
HDP 110 2	**17.1**	58	28660	182	102	144	164	199	—	190	218	—
HDP 110 2	**19.7**	51	27660	153	106	148	168	203	—	194	222	—
HDP 110 2	**21.8**	46	28990	145	106	148	—	203	—	194	222	—
HDP 110 2	**25.0**	40	26700	116	107	149	—	204	—	195	223	—
HDP 110 3	**24.9**	40	30340	136	79	107	120	150	—	142	163	—
HDP 110 3	**27.6**	36	29420	119	79	107	120	150	—	142	163	—
HDP 110 3	**30.7**	33	30740	111	80	108	121	151	—	143	164	—
HDP 110 3	**34.0**	29.4	29300	96	80	108	—	151	—	143	164	—
HDP 110 3	**38.7**	25.9	31010	89	81	109	—	152	—	144	165	—
HDP 110 3	**42.8**	23.3	29180	76	—	—	—	—	—	—	—	—
HDP 110 3	**49.2**	20.3	31100	70	—	—	—	—	—	—	—	—
HDP 110 3	**54.5**	18.4	29270	60	—	—	—	—	—	—	—	—
HDP 110 3	**60.7**	16.5	30740	56	—	—	—	—	—	—	—	—
HDP 110 3	**67.2**	14.9	30240	50	—	—	—	—	—	—	—	—
HDP 110 3	**76.4**	13.1	31130	45	—	—	—	—	—	—	—	—
HDP 110 3	**84.6**	11.8	31360	41	—	—	—	—	—	—	—	—
HDP 110 3	**97.1**	10.3	31350	36	—	—	—	—	—	—	—	—
HDP 110 3	**107.6**	9.3	31790	33	—	—	—	—	—	—	—	—
HDP 110 3	**123.4**	8.1	28180	25	—	—	—	—	—	—	—	—
HDP 110 4	**120.9**	8.3	31350	29	—	—	—	—	—	—	—	—
HDP 110 4	**133.9**	7.5	31790	27	—	—	—	—	—	—	—	—
HDP 110 4	**168.5**	5.9	31790	21	—	—	—	—	—	—	—	—
HDP 110 4	**191.0**	5.2	31570	18.8	—	—	—	—	—	—	—	—
HDP 110 4	**193.4**	5.2	31570	18.5	—	—	—	—	—	—	—	—
HDP 110 4	**214.2**	4.7	31790	16.8	—	—	—	—	—	—	—	—
HDP 110 4	**248.6**	4.0	31350	14.3	—	—	—	—	—	—	—	—
HDP 110 4	**275.4**	3.6	31790	13.1	—	—	—	—	—	—	—	—
HDP 110 4	**313.0**	3.2	31570	11.5	—	—	—	—	—	—	—	—
HDP 110 4	**346.7**	2.9	31790	10.4	—	—	—	—	—	—	—	—
HDP 110 4	**392.9**	2.5	31570	9.1	—	—	—	—	—	—	—	—
HDP 110 4	**440.7**	2.3	31790	8.2	—	—	—	—	—	—	—	—
HDP 110 4	**499.4**	2.0	31570	7.2	—	—	—	—	—	—	—	—

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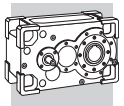

HDP 120 — n_1 = 1800 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 20°C							
		[min^{-1}]	[Nm]	[kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 120 2	**7.9**	228	31180	774	*	*	*	*	344	*	*	*
HDP 120 2	**8.6**	209	31770	724	*	*	*	*	347	*	*	304
HDP 120 2	**10.3**	175	33810	644	*	*	277	295	373	*	*	330
HDP 120 2	**11.2**	160	34440	602	*	*	279	297	375	*	*	332
HDP 120 2	**13.0**	138	35100	529	*	245	296	314	392	227	255	349
HDP 120 2	**14.2**	127	35830	496	*	246	297	315	393	228	256	350
HDP 120 2	**16.0**	113	36900	453	*	257	308	326	404	239	267	361
HDP 120 2	**17.4**	103	37690	425	*	259	310	328	406	241	269	363
HDP 120 2	**20.6**	87	39000	371	164	270	321	339	417	252	280	374
HDP 120 2	**22.5**	80	39990	349	165	271	322	340	418	253	281	375
HDP 120 2	**25.4**	71	36810	285	166	272	323	341	—	254	282	376
HDP 120 3	**25.8**	70	34260	266	123	197	233	250	307	186	207	275
HDP 120 3	**28.0**	64	34980	250	123	197	233	250	—	186	207	275
HDP 120 3	**32.5**	55	35860	221	127	201	237	254	—	190	211	279
HDP 120 3	**35.4**	51	36410	206	127	201	237	254	—	190	211	—
HDP 120 3	**39.9**	45	37670	189	130	204	—	257	—	193	214	—
HDP 120 3	**43.5**	41	38220	176	130	204	—	257	—	193	214	—
HDP 120 3	**51.6**	35	38880	151	133	207	—	260	—	196	217	—
HDP 120 3	**56.1**	32	38500	137	133	207	—	260	—	196	217	—
HDP 120 3	**64.3**	28.0	38880	121	—	—	—	—	—	—	—	—
HDP 120 3	**70.0**	25.7	38500	110	—	—	—	—	—	—	—	—
HDP 120 3	**78.9**	22.8	38880	99	—	—	—	—	—	—	—	—
HDP 120 3	**85.9**	21.0	38500	90	—	—	—	—	—	—	—	—
HDP 120 3	**101.8**	17.7	38880	76	—	—	—	—	—	—	—	—
HDP 120 3	**110.9**	16.2	38500	70	—	—	—	—	—	—	—	—
HDP 120 3	**125.2**	14.4	34920	56	—	—	—	—	—	—	—	—
HDP 120 4	**128.0**	14.1	35910	57	—	—	—	—	—	—	—	—
HDP 120 4	**139.4**	12.9	39160	57	—	—	—	—	—	—	—	—
HDP 120 4	**157.1**	11.5	37010	48	—	—	—	—	—	—	—	—
HDP 120 4	**171.1**	10.5	38500	46	—	—	—	—	—	—	—	—
HDP 120 4	**202.8**	8.9	38880	39	—	—	—	—	—	—	—	—
HDP 120 4	**220.8**	8.2	38500	36	—	—	—	—	—	—	—	—
HDP 120 4	**254.6**	7.1	38880	31	—	—	—	—	—	—	—	—
HDP 120 4	**277.2**	6.5	38500	28	—	—	—	—	—	—	—	—
HDP 120 4	**323.2**	5.6	38880	25	—	—	—	—	—	—	—	—
HDP 120 4	**351.9**	5.1	38500	22	—	—	—	—	—	—	—	—
HDP 120 4	**405.7**	4.4	38880	19.6	—	—	—	—	—	—	—	—
HDP 120 4	**454.3**	4.0	40920	18.4	—	—	—	—	—	—	—	—
HDP 120 4	**523.7**	3.4	41250	16.1	—	—	—	—	—	—	—	—

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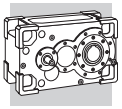

HDP 120 — n_1 = 1800 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 40°C							
					P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 120 2	**7.9**	228	31180	774	*	*	*	*	*	*	*	*
HDP 120 2	**8.6**	209	31770	724	*	*	*	*	*	*	*	*
HDP 120 2	**10.3**	175	33810	644	*	*	*	*	*	*	*	275
HDP 120 2	**11.2**	160	34440	602	*	*	*	*	*	*	*	277
HDP 120 2	**13.0**	138	35100	529	*	*	*	*	225	*	*	294
HDP 120 2	**14.2**	127	35830	496	*	*	201	*	227	*	202	296
HDP 120 2	**16.0**	113	36900	453	*	*	212	194	238	185	213	307
HDP 120 2	**17.4**	103	37690	425	*	176	213	195	239	186	214	308
HDP 120 2	**20.6**	87	39000	371	*	187	224	206	250	197	225	319
HDP 120 2	**22.5**	80	39990	349	*	188	225	207	251	198	226	320
HDP 120 2	**25.4**	71	36810	285	*	190	227	209	253	200	228	322
HDP 120 3	**25.8**	70	34260	266	*	135	162	152	183	144	165	233
HDP 120 3	**28.0**	64	34980	250	*	135	162	152	183	144	165	233
HDP 120 3	**32.5**	55	35860	221	*	139	166	156	187	148	169	237
HDP 120 3	**35.4**	51	36410	206	86	140	167	157	188	149	170	238
HDP 120 3	**39.9**	45	37670	189	88	142	169	159	190	151	172	240
HDP 120 3	**43.5**	41	38220	176	89	143	170	160	191	152	173	241
HDP 120 3	**51.6**	35	38880	151	91	145	172	162	—	154	175	—
HDP 120 3	**56.1**	32	38500	137	91	145	—	162	—	154	175	—
HDP 120 3	**64.3**	28.0	38880	121	100	154	—	171	—	163	184	—
HDP 120 3	**70.0**	25.7	38500	110	100	154	—	171	—	163	184	—
HDP 120 3	**78.9**	22.8	38880	99	—	—	—	—	—	—	—	—
HDP 120 3	**85.9**	21.0	38500	90	—	—	—	—	—	—	—	—
HDP 120 3	**101.8**	17.7	38880	76	—	—	—	—	—	—	—	—
HDP 120 3	**110.9**	16.2	38500	70	—	—	—	—	—	—	—	—
HDP 120 3	**125.2**	14.4	34920	56	—	—	—	—	—	—	—	—
HDP 120 4	**128.0**	14.1	35910	57	—	—	—	—	—	—	—	—
HDP 120 4	**139.4**	12.9	39160	57	—	—	—	—	—	—	—	—
HDP 120 4	**157.1**	11.5	37010	48	—	—	—	—	—	—	—	—
HDP 120 4	**171.1**	10.5	38500	46	—	—	—	—	—	—	—	—
HDP 120 4	**202.8**	8.9	38880	39	—	—	—	—	—	—	—	—
HDP 120 4	**220.8**	8.2	38500	36	—	—	—	—	—	—	—	—
HDP 120 4	**254.6**	7.1	38880	31	—	—	—	—	—	—	—	—
HDP 120 4	**277.2**	6.5	38500	28	—	—	—	—	—	—	—	—
HDP 120 4	**323.2**	5.6	38880	25	—	—	—	—	—	—	—	—
HDP 120 4	**351.9**	5.1	38500	22	—	—	—	—	—	—	—	—
HDP 120 4	**405.7**	4.4	38880	19.6	—	—	—	—	—	—	—	—
HDP 120 4	**454.3**	4.0	40920	18.4	—	—	—	—	—	—	—	—
HDP 120 4	**523.7**	3.4	41250	16.1	—	—	—	—	—	—	—	—

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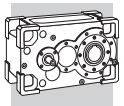

HDP 120 — n_1 = 1500 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 20°C							
		[min^{-1}]	[Nm]	[kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 120 2	**7.9**	190	32940	681	*	*	*	291	369	*	*	326
HDP 120 2	**8.6**	174	33560	637	*	*	255	294	372	*	*	329
HDP 120 2	**10.3**	146	35710	567	*	231	275	314	392	*	255	349
HDP 120 2	**11.2**	134	36370	530	*	232	276	315	393	228	256	350
HDP 120 2	**13.0**	115	37080	466	*	245	289	328	406	241	269	363
HDP 120 2	**14.2**	106	37840	437	*	247	291	330	408	243	271	365
HDP 120 2	**16.0**	94	38580	395	163	255	299	338	416	251	279	373
HDP 120 2	**17.4**	86	39810	374	164	256	300	339	417	252	280	374
HDP 120 2	**20.6**	73	39000	309	173	265	309	348	—	261	289	383
HDP 120 2	**22.5**	67	39780	290	174	266	310	349	—	262	290	384
HDP 120 2	**25.4**	59	36630	236	175	267	—	350	—	263	291	—
HDP 120 3	**25.8**	58	36330	235	130	194	226	257	—	193	214	282
HDP 120 3	**28.0**	53	37110	221	131	195	227	258	—	194	215	283
HDP 120 3	**32.5**	46	38040	195	133	197	—	260	—	196	217	—
HDP 120 3	**35.4**	42	38620	182	134	198	—	261	—	197	218	—
HDP 120 3	**39.9**	38	39930	167	136	200	—	263	—	199	220	—
HDP 120 3	**43.5**	34	39150	150	136	200	—	263	—	199	220	—
HDP 120 3	**51.6**	29.1	40410	131	—	—	—	—	—	—	—	—
HDP 120 3	**56.1**	26.7	38960	116	—	—	—	—	—	—	—	—
HDP 120 3	**64.3**	23.3	40250	105	—	—	—	—	—	—	—	—
HDP 120 3	**70.0**	21.4	38800	93	—	—	—	—	—	—	—	—
HDP 120 3	**78.9**	19.0	40600	86	—	—	—	—	—	—	—	—
HDP 120 3	**85.9**	17.5	39160	76	—	—	—	—	—	—	—	—
HDP 120 3	**101.8**	14.7	41250	68	—	—	—	—	—	—	—	—
HDP 120 3	**110.9**	13.5	40740	61	—	—	—	—	—	—	—	—
HDP 120 3	**125.2**	12.0	37570	50	—	—	—	—	—	—	—	—
HDP 120 4	**128.0**	11.7	38110	51	—	—	—	—	—	—	—	—
HDP 120 4	**139.4**	10.8	40920	50	—	—	—	—	—	—	—	—
HDP 120 4	**157.1**	9.5	39600	43	—	—	—	—	—	—	—	—
HDP 120 4	**171.1**	8.8	40920	41	—	—	—	—	—	—	—	—
HDP 120 4	**202.8**	7.4	41250	35	—	—	—	—	—	—	—	—
HDP 120 4	**220.8**	6.8	40920	32	—	—	—	—	—	—	—	—
HDP 120 4	**254.6**	5.9	41250	28	—	—	—	—	—	—	—	—
HDP 120 4	**277.2**	5.4	40920	25	—	—	—	—	—	—	—	—
HDP 120 4	**323.2**	4.6	41250	22	—	—	—	—	—	—	—	—
HDP 120 4	**351.9**	4.3	40920	19.8	—	—	—	—	—	—	—	—
HDP 120 4	**405.7**	3.7	41250	17.3	—	—	—	—	—	—	—	—
HDP 120 4	**454.3**	3.3	40920	15.3	—	—	—	—	—	—	—	—
HDP 120 4	**523.7**	2.9	41250	13.4	—	—	—	—	—	—	—	—

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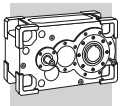
— Thermal verification not necessary

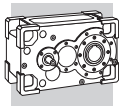


HDP 120 — n_1 = 1500 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 40°C							
					P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 120 2	**7.9**	190	32940	681	*	*	*	*	*	*	*	*
HDP 120 2	**8.6**	174	33560	637	*	*	*	*	*	*	*	275
HDP 120 2	**10.3**	146	35710	567	*	*	*	*	*	*	*	294
HDP 120 2	**11.2**	134	36370	530	*	*	*	*	227	*	*	296
HDP 120 2	**13.0**	115	37080	466	*	*	199	196	240	187	215	309
HDP 120 2	**14.2**	106	37840	437	*	*	200	197	241	188	216	310
HDP 120 2	**16.0**	94	38580	395	*	176	209	206	250	197	225	319
HDP 120 2	**17.4**	86	39810	374	*	177	210	207	251	198	226	320
HDP 120 2	**20.6**	73	39000	309	*	185	218	215	259	206	234	328
HDP 120 2	**22.5**	67	39780	290	119	186	219	216	260	207	235	329
HDP 120 2	**25.4**	59	36630	236	120	187	220	217	261	208	236	330
HDP 120 3	**25.8**	58	36330	235	*	135	158	159	190	151	172	240
HDP 120 3	**28.0**	53	37110	221	89	136	159	160	191	152	173	241
HDP 120 3	**32.5**	46	38040	195	92	139	162	163	194	155	176	244
HDP 120 3	**35.4**	42	38620	182	92	139	162	163	194	155	176	244
HDP 120 3	**39.9**	38	39930	167	94	141	164	165	196	157	178	—
HDP 120 3	**43.5**	34	39150	150	94	141	164	165	—	157	178	—
HDP 120 3	**51.6**	29.1	40410	131	96	143	—	167	—	159	180	—
HDP 120 3	**56.1**	26.7	38960	116	96	143	—	167	—	159	180	—
HDP 120 3	**64.3**	23.3	40250	105	103	150	—	174	—	166	187	—
HDP 120 3	**70.0**	21.4	38800	93	—	—	—	—	—	—	—	—
HDP 120 3	**78.9**	19.0	40600	86	—	—	—	—	—	—	—	—
HDP 120 3	**85.9**	17.5	39160	76	—	—	—	—	—	—	—	—
HDP 120 3	**101.8**	14.7	41250	68	—	—	—	—	—	—	—	—
HDP 120 3	**110.9**	13.5	40740	61	—	—	—	—	—	—	—	—
HDP 120 3	**125.2**	12.0	37570	50	—	—	—	—	—	—	—	—
HDP 120 4	**128.0**	11.7	38110	51	—	—	—	—	—	—	—	—
HDP 120 4	**139.4**	10.8	40920	50	—	—	—	—	—	—	—	—
HDP 120 4	**157.1**	9.5	39600	43	—	—	—	—	—	—	—	—
HDP 120 4	**171.1**	8.8	40920	41	—	—	—	—	—	—	—	—
HDP 120 4	**202.8**	7.4	41250	35	—	—	—	—	—	—	—	—
HDP 120 4	**220.8**	6.8	40920	32	—	—	—	—	—	—	—	—
HDP 120 4	**254.6**	5.9	41250	28	—	—	—	—	—	—	—	—
HDP 120 4	**277.2**	5.4	40920	25	—	—	—	—	—	—	—	—
HDP 120 4	**323.2**	4.6	41250	22	—	—	—	—	—	—	—	—
HDP 120 4	**351.9**	4.3	40920	19.8	—	—	—	—	—	—	—	—
HDP 120 4	**405.7**	3.7	41250	17.3	—	—	—	—	—	—	—	—
HDP 120 4	**454.3**	3.3	40920	15.3	—	—	—	—	—	—	—	—
HDP 120 4	**523.7**	2.9	41250	13.4	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary



HDP 120 — n_1 = 1200 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 20°C							
		[min^{-1}]	[Nm]	[kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 120 2	**7.9**	152	35220	583	*	*	258	310	388	*	251	345
HDP 120 2	**8.6**	139	35880	545	*	220	260	312	390	225	253	347
HDP 120 2	**10.3**	116	37550	477	*	236	276	328	406	241	269	363
HDP 120 2	**11.2**	107	38890	454	*	237	277	329	407	242	270	364
HDP 120 2	**13.0**	92	38140	383	164	247	287	339	417	252	280	374
HDP 120 2	**14.2**	85	39590	366	165	248	288	340	418	253	281	375
HDP 120 2	**16.0**	75	38580	316	172	255	295	347	—	260	288	382
HDP 120 2	**17.4**	69	39820	299	173	256	296	348	—	261	289	383
HDP 120 2	**20.6**	58	39000	247	179	262	—	354	—	267	295	—
HDP 120 2	**22.5**	53	39550	230	180	263	—	355	—	268	296	—
HDP 120 2	**25.4**	47	36420	188	181	264	—	356	—	269	297	—
HDP 120 3	**25.8**	47	38840	201	136	194	222	263	—	199	220	—
HDP 120 3	**28.0**	43	39340	187	136	194	—	263	—	199	220	—
HDP 120 3	**32.5**	37	40610	167	138	196	—	265	—	201	222	—
HDP 120 3	**35.4**	34	39140	147	138	196	—	265	—	201	222	—
HDP 120 3	**39.9**	30	40430	135	—	—	—	—	—	—	—	—
HDP 120 3	**43.5**	27.6	38980	120	—	—	—	—	—	—	—	—
HDP 120 3	**51.6**	23.3	40240	104	—	—	—	—	—	—	—	—
HDP 120 3	**56.1**	21.4	38800	92	—	—	—	—	—	—	—	—
HDP 120 3	**64.3**	18.7	40710	85	—	—	—	—	—	—	—	—
HDP 120 3	**70.0**	17.1	39270	75	—	—	—	—	—	—	—	—
HDP 120 3	**78.9**	15.2	41250	70	—	—	—	—	—	—	—	—
HDP 120 3	**85.9**	14.0	40540	63	—	—	—	—	—	—	—	—
HDP 120 3	**101.8**	11.8	41250	54	—	—	—	—	—	—	—	—
HDP 120 3	**110.9**	10.8	40920	49	—	—	—	—	—	—	—	—
HDP 120 3	**125.2**	9.6	37730	40	—	—	—	—	—	—	—	—
HDP 120 4	**128.0**	9.4	40750	43	—	—	—	—	—	—	—	—
HDP 120 4	**139.4**	8.6	40920	40	—	—	—	—	—	—	—	—
HDP 120 4	**157.1**	7.6	41250	36	—	—	—	—	—	—	—	—
HDP 120 4	**171.1**	7.0	40920	33	—	—	—	—	—	—	—	—
HDP 120 4	**202.8**	5.9	41250	28	—	—	—	—	—	—	—	—
HDP 120 4	**220.8**	5.4	40920	25	—	—	—	—	—	—	—	—
HDP 120 4	**254.6**	4.7	41250	22	—	—	—	—	—	—	—	—
HDP 120 4	**277.2**	4.3	40920	20	—	—	—	—	—	—	—	—
HDP 120 4	**323.2**	3.7	41250	17.4	—	—	—	—	—	—	—	—
HDP 120 4	**351.9**	3.4	40920	15.8	—	—	—	—	—	—	—	—
HDP 120 4	**405.7**	3.0	41250	13.9	—	—	—	—	—	—	—	—
HDP 120 4	**454.3**	2.6	40920	12.3	—	—	—	—	—	—	—	—
HDP 120 4	**523.7**	2.3	41250	10.7	—	—	—	—	—	—	—	—

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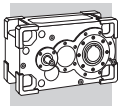
— Thermal verification not necessary



HDP 120 — n_1 = 1200 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 40°C							
					P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 120 2	**7.9**	152	35220	583	*	*	*	*	*	*	*	291
HDP 120 2	**8.6**	139	35880	545	*	*	*	*	224	*	*	293
HDP 120 2	**10.3**	116	37550	477	*	*	*	195	239	*	214	308
HDP 120 2	**11.2**	107	38890	454	*	*	189	196	240	187	215	309
HDP 120 2	**13.0**	92	38140	383	*	170	199	206	250	197	225	319
HDP 120 2	**14.2**	85	39590	366	*	172	201	208	252	199	227	321
HDP 120 2	**16.0**	75	38580	316	*	178	207	214	258	205	233	327
HDP 120 2	**17.4**	69	39820	299	*	179	208	215	259	206	234	328
HDP 120 2	**20.6**	58	39000	247	125	186	215	222	266	213	241	335
HDP 120 2	**22.5**	53	39550	230	125	186	215	222	266	213	241	—
HDP 120 2	**25.4**	47	36420	188	126	187	216	223	—	214	242	—
HDP 120 3	**25.8**	47	38840	201	94	136	157	165	196	157	178	246
HDP 120 3	**28.0**	43	39340	187	94	136	157	165	196	157	178	246
HDP 120 3	**32.5**	37	40610	167	96	138	159	167	—	159	180	—
HDP 120 3	**35.4**	34	39140	147	97	139	160	168	—	160	181	—
HDP 120 3	**39.9**	30	40430	135	98	140	—	169	—	161	182	—
HDP 120 3	**43.5**	27.6	38980	120	98	140	—	169	—	161	182	—
HDP 120 3	**51.6**	23.3	40240	104	100	142	—	171	—	163	184	—
HDP 120 3	**56.1**	21.4	38800	92	—	—	—	—	—	—	—	—
HDP 120 3	**64.3**	18.7	40710	85	—	—	—	—	—	—	—	—
HDP 120 3	**70.0**	17.1	39270	75	—	—	—	—	—	—	—	—
HDP 120 3	**78.9**	15.2	41250	70	—	—	—	—	—	—	—	—
HDP 120 3	**85.9**	14.0	40540	63	—	—	—	—	—	—	—	—
HDP 120 3	**101.8**	11.8	41250	54	—	—	—	—	—	—	—	—
HDP 120 3	**110.9**	10.8	40920	49	—	—	—	—	—	—	—	—
HDP 120 3	**125.2**	9.6	37730	40	—	—	—	—	—	—	—	—
HDP 120 4	**128.0**	9.4	40750	43	—	—	—	—	—	—	—	—
HDP 120 4	**139.4**	8.6	40920	40	—	—	—	—	—	—	—	—
HDP 120 4	**157.1**	7.6	41250	36	—	—	—	—	—	—	—	—
HDP 120 4	**171.1**	7.0	40920	33	—	—	—	—	—	—	—	—
HDP 120 4	**202.8**	5.9	41250	28	—	—	—	—	—	—	—	—
HDP 120 4	**220.8**	5.4	40920	25	—	—	—	—	—	—	—	—
HDP 120 4	**254.6**	4.7	41250	22	—	—	—	—	—	—	—	—
HDP 120 4	**277.2**	4.3	40920	20	—	—	—	—	—	—	—	—
HDP 120 4	**323.2**	3.7	41250	17.4	—	—	—	—	—	—	—	—
HDP 120 4	**351.9**	3.4	40920	15.8	—	—	—	—	—	—	—	—
HDP 120 4	**405.7**	3.0	41250	13.9	—	—	—	—	—	—	—	—
HDP 120 4	**454.3**	2.6	40920	12.3	—	—	—	—	—	—	—	—
HDP 120 4	**523.7**	2.3	41250	10.7	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

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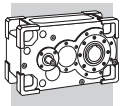

HDP 120 — n_1 = 1000 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 20°C							
		[min^{-1}]	[Nm]	[kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 120 2	**7.9**	126	36820	508	*	212	244	323	401	236	264	358
HDP 120 2	**8.6**	116	37900	480	*	214	246	325	403	238	266	360
HDP 120 2	**10.3**	97	37550	397	162	226	258	337	415	250	278	372
HDP 120 2	**11.2**	89	39010	379	163	227	259	338	416	251	279	373
HDP 120 2	**13.0**	77	38520	323	171	235	267	346	—	259	287	381
HDP 120 2	**14.2**	71	39590	305	172	236	268	347	—	260	288	382
HDP 120 2	**16.0**	63	38920	266	178	242	274	353	—	266	294	—
HDP 120 2	**17.4**	57	39630	248	178	242	274	353	—	266	294	—
HDP 120 2	**20.6**	48	39000	206	184	248	—	359	—	272	300	—
HDP 120 2	**22.5**	45	39380	191	184	248	—	359	—	272	300	—
HDP 120 2	**25.4**	39	36270	156	—	—	—	—	—	—	—	—
HDP 120 3	**25.8**	39	40090	173	139	184	—	266	—	202	223	—
HDP 120 3	**28.0**	36	39180	155	140	185	—	267	—	203	224	—
HDP 120 3	**32.5**	31	40450	138	—	—	—	—	—	—	—	—
HDP 120 3	**35.4**	28.2	39000	122	—	—	—	—	—	—	—	—
HDP 120 3	**39.9**	25.0	40300	112	—	—	—	—	—	—	—	—
HDP 120 3	**43.5**	23.0	38850	99	—	—	—	—	—	—	—	—
HDP 120 3	**51.6**	19.4	40480	87	—	—	—	—	—	—	—	—
HDP 120 3	**56.1**	17.8	39040	77	—	—	—	—	—	—	—	—
HDP 120 3	**64.3**	15.6	40860	71	—	—	—	—	—	—	—	—
HDP 120 3	**70.0**	14.3	40390	64	—	—	—	—	—	—	—	—
HDP 120 3	**78.9**	12.7	41250	58	—	—	—	—	—	—	—	—
HDP 120 3	**85.9**	11.6	40920	53	—	—	—	—	—	—	—	—
HDP 120 3	**101.8**	9.8	41250	45	—	—	—	—	—	—	—	—
HDP 120 3	**110.9**	9.0	40920	41	—	—	—	—	—	—	—	—
HDP 120 3	**125.2**	8.0	37730	34	—	—	—	—	—	—	—	—
HDP 120 4	**128.0**	7.8	41250	37	—	—	—	—	—	—	—	—
HDP 120 4	**139.4**	7.2	40920	33	—	—	—	—	—	—	—	—
HDP 120 4	**157.1**	6.4	41250	30	—	—	—	—	—	—	—	—
HDP 120 4	**171.1**	5.8	40920	27	—	—	—	—	—	—	—	—
HDP 120 4	**202.8**	4.9	41250	23	—	—	—	—	—	—	—	—
HDP 120 4	**220.8**	4.5	40920	21	—	—	—	—	—	—	—	—
HDP 120 4	**254.6**	3.9	41250	18.4	—	—	—	—	—	—	—	—
HDP 120 4	**277.2**	3.6	40920	16.8	—	—	—	—	—	—	—	—
HDP 120 4	**323.2**	3.1	41250	14.5	—	—	—	—	—	—	—	—
HDP 120 4	**351.9**	2.8	40920	13.2	—	—	—	—	—	—	—	—
HDP 120 4	**405.7**	2.5	41250	11.5	—	—	—	—	—	—	—	—
HDP 120 4	**454.3**	2.2	40920	10.2	—	—	—	—	—	—	—	—
HDP 120 4	**523.7**	1.9	41250	8.9	—	—	—	—	—	—	—	—

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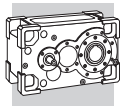
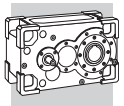


HDP 120 — n_1 = 1000 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 40°C							
					P_T [kW]	$P_{TFANL\,/\,R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 120 2	**7.9**	126	36820	508	*	*	*	*	235	*	210	304
HDP 120 2	**8.6**	116	37900	480	*	*	*	192	236	*	211	305
HDP 120 2	**10.3**	97	37550	397	*	*	178	205	249	196	224	318
HDP 120 2	**11.2**	89	39010	379	*	156	179	206	250	197	225	319
HDP 120 2	**13.0**	77	38520	323	*	164	187	214	258	205	233	327
HDP 120 2	**14.2**	71	39590	305	*	165	188	215	259	206	234	328
HDP 120 2	**16.0**	63	38920	266	123	170	193	220	264	211	239	333
HDP 120 2	**17.4**	57	39630	248	124	171	194	221	265	212	240	334
HDP 120 2	**20.6**	48	39000	206	129	176	199	226	—	217	245	—
HDP 120 2	**22.5**	45	39380	191	130	177	200	227	—	218	246	—
HDP 120 2	**25.4**	39	36270	156	130	177	—	227	—	218	246	—
HDP 120 3	**25.8**	39	40090	173	98	131	147	169	200	161	182	—
HDP 120 3	**28.0**	36	39180	155	98	131	147	169	—	161	182	—
HDP 120 3	**32.5**	31	40450	138	100	133	149	171	—	163	184	—
HDP 120 3	**35.4**	28.2	39000	122	100	133	—	171	—	163	184	—
HDP 120 3	**39.9**	25.0	40300	112	101	134	—	172	—	164	185	—
HDP 120 3	**43.5**	23.0	38850	99	—	—	—	—	—	—	—	—
HDP 120 3	**51.6**	19.4	40480	87	—	—	—	—	—	—	—	—
HDP 120 3	**56.1**	17.8	39040	77	—	—	—	—	—	—	—	—
HDP 120 3	**64.3**	15.6	40860	71	—	—	—	—	—	—	—	—
HDP 120 3	**70.0**	14.3	40390	64	—	—	—	—	—	—	—	—
HDP 120 3	**78.9**	12.7	41250	58	—	—	—	—	—	—	—	—
HDP 120 3	**85.9**	11.6	40920	53	—	—	—	—	—	—	—	—
HDP 120 3	**101.8**	9.8	41250	45	—	—	—	—	—	—	—	—
HDP 120 3	**110.9**	9.0	40920	41	—	—	—	—	—	—	—	—
HDP 120 3	**125.2**	8.0	37730	34	—	—	—	—	—	—	—	—
HDP 120 4	**128.0**	7.8	41250	37	—	—	—	—	—	—	—	—
HDP 120 4	**139.4**	7.2	40920	33	—	—	—	—	—	—	—	—
HDP 120 4	**157.1**	6.4	41250	30	—	—	—	—	—	—	—	—
HDP 120 4	**171.1**	5.8	40920	27	—	—	—	—	—	—	—	—
HDP 120 4	**202.8**	4.9	41250	23	—	—	—	—	—	—	—	—
HDP 120 4	**220.8**	4.5	40920	21	—	—	—	—	—	—	—	—
HDP 120 4	**254.6**	3.9	41250	18.4	—	—	—	—	—	—	—	—
HDP 120 4	**277.2**	3.6	40920	16.8	—	—	—	—	—	—	—	—
HDP 120 4	**323.2**	3.1	41250	14.5	—	—	—	—	—	—	—	—
HDP 120 4	**351.9**	2.8	40920	13.2	—	—	—	—	—	—	—	—
HDP 120 4	**405.7**	2.5	41250	11.5	—	—	—	—	—	—	—	—
HDP 120 4	**454.3**	2.2	40920	10.2	—	—	—	—	—	—	—	—
HDP 120 4	**523.7**	1.9	41250	8.9	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

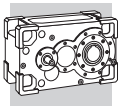


HDP 125 — n_1 = 1800 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 20°C							
					P_T	$P_{TFANL\,/\,R}$	P_{TFANLR}	P_{TMCRA5}	P_{TMCRA9}	P_{TSR}	P_{TMCRW5}	P_{TMCRW9}
		[min^{-1}]	[Nm]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
HDP 125 2	**8.9**	202	38070	837	*	*	*	*	355	*	*	*
HDP 125 2	**9.6**	187	38660	790	*	*	*	*	387	*	*	344
HDP 125 2	**11.6**	155	41280	697	*	*	303	321	399	*	*	356
HDP 125 2	**12.5**	144	41890	657	*	271	322	340	418	*	281	375
HDP 125 2	**14.7**	123	42740	571	*	274	325	343	421	256	284	378
HDP 125 2	**15.8**	114	43450	540	*	285	336	354	432	267	295	389
HDP 125 2	**18.0**	100	44090	480	*	287	338	356	434	269	297	391
HDP 125 2	**19.4**	93	45480	460	191	297	348	366	444	279	307	401
HDP 125 2	**23.3**	77	44580	376	193	299	350	368	446	281	309	403
HDP 125 2	**25.0**	72	45950	360	194	300	351	369	—	282	310	404
HDP 125 3	**29.1**	62	38810	267	150	224	260	277	—	213	234	302
HDP 125 3	**31.3**	58	41360	265	153	227	263	280	—	216	237	305
HDP 125 3	**36.7**	49	43580	238	155	229	—	282	—	218	239	—
HDP 125 3	**39.5**	46	44100	224	157	231	—	284	—	220	241	—
HDP 125 3	**45.1**	40	45710	203	157	231	—	284	—	220	241	—
HDP 125 3	**48.5**	37	46240	191	160	234	—	287	—	223	244	—
HDP 125 3	**58.2**	31	47750	164	—	—	—	—	—	—	—	—
HDP 125 3	**62.6**	28.8	49240	158	—	—	—	—	—	—	—	—
HDP 125 3	**72.5**	24.8	46430	128	—	—	—	—	—	—	—	—
HDP 125 3	**78.0**	23.1	48180	124	—	—	—	—	—	—	—	—
HDP 125 3	**89.0**	20.2	47230	106	—	—	—	—	—	—	—	—
HDP 125 3	**95.8**	18.8	48720	102	—	—	—	—	—	—	—	—
HDP 125 3	**114.9**	15.7	47750	83	—	—	—	—	—	—	—	—
HDP 125 3	**123.6**	14.6	49240	80	—	—	—	—	—	—	—	—
HDP 125 4	**144.4**	12.5	40710	58	—	—	—	—	—	—	—	—
HDP 125 4	**155.4**	11.6	43810	58	—	—	—	—	—	—	—	—
HDP 125 4	**181.2**	9.9	46060	52	—	—	—	—	—	—	—	—
HDP 125 4	**195.0**	9.2	48180	50	—	—	—	—	—	—	—	—
HDP 125 4	**222.5**	8.1	47230	43	—	—	—	—	—	—	—	—
HDP 125 4	**246.2**	7.3	49240	41	—	—	—	—	—	—	—	—
HDP 125 4	**287.2**	6.3	47750	34	—	—	—	—	—	—	—	—
HDP 125 4	**319.6**	5.6	48180	31	—	—	—	—	—	—	—	—
HDP 125 4	**364.6**	4.9	47230	26	—	—	—	—	—	—	—	—
HDP 125 4	**401.2**	4.5	48180	25	—	—	—	—	—	—	—	—
HDP 125 4	**457.7**	3.9	47230	21	—	—	—	—	—	—	—	—
HDP 125 4	**506.5**	3.6	49240	19.9	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary



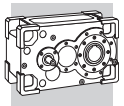
HDP 125

n_1 = 1800 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 40°C							
					P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 125 2	**8.9**	202	38070	837	*	*	*	*	*	*	*	*
HDP 125 2	**9.6**	187	38660	790	*	*	*	*	*	*	*	*
HDP 125 2	**11.6**	155	41280	697	*	*	*	*	*	*	*	292
HDP 125 2	**12.5**	144	41890	657	*	*	*	*	*	*	*	311
HDP 125 2	**14.7**	123	42740	571	*	*	*	*	244	*	*	313
HDP 125 2	**15.8**	114	43450	540	*	*	230	*	256	*	231	325
HDP 125 2	**18.0**	100	44090	480	*	194	231	213	257	204	232	326
HDP 125 2	**19.4**	93	45480	460	*	205	242	224	268	215	243	337
HDP 125 2	**23.3**	77	44580	376	*	206	243	225	269	216	244	338
HDP 125 2	**25.0**	72	45950	360	*	207	244	226	270	217	245	339
HDP 125 3	**29.1**	62	38810	267	*	155	182	172	203	164	185	253
HDP 125 3	**31.3**	58	41360	265	*	158	185	175	206	167	188	256
HDP 125 3	**36.7**	49	43580	238	106	160	187	177	208	169	190	258
HDP 125 3	**39.5**	46	44100	224	108	162	189	179	210	171	192	260
HDP 125 3	**45.1**	40	45710	203	108	162	189	179	210	171	192	—
HDP 125 3	**48.5**	37	46240	191	111	165	—	182	—	174	195	—
HDP 125 3	**58.2**	31	47750	164	111	165	—	182	—	174	195	—
HDP 125 3	**62.6**	28.8	49240	158	120	174	—	191	—	183	204	—
HDP 125 3	**72.5**	24.8	46430	128	120	174	—	191	—	183	204	—
HDP 125 3	**78.0**	23.1	48180	124	—	—	—	—	—	—	—	—
HDP 125 3	**89.0**	20.2	47230	106	—	—	—	—	—	—	—	—
HDP 125 3	**95.8**	18.8	48720	102	—	—	—	—	—	—	—	—
HDP 125 3	**114.9**	15.7	47750	83	—	—	—	—	—	—	—	—
HDP 125 3	**123.6**	14.6	49240	80	—	—	—	—	—	—	—	—
HDP 125 4	**144.4**	12.5	40710	58	—	—	—	—	—	—	—	—
HDP 125 4	**155.4**	11.6	43810	58	—	—	—	—	—	—	—	—
HDP 125 4	**181.2**	9.9	46060	52	—	—	—	—	—	—	—	—
HDP 125 4	**195.0**	9.2	48180	50	—	—	—	—	—	—	—	—
HDP 125 4	**222.5**	8.1	47230	43	—	—	—	—	—	—	—	—
HDP 125 4	**246.2**	7.3	49240	41	—	—	—	—	—	—	—	—
HDP 125 4	**287.2**	6.3	47750	34	—	—	—	—	—	—	—	—
HDP 125 4	**319.6**	5.6	48180	31	—	—	—	—	—	—	—	—
HDP 125 4	**364.6**	4.9	47230	26	—	—	—	—	—	—	—	—
HDP 125 4	**401.2**	4.5	48180	25	—	—	—	—	—	—	—	—
HDP 125 4	**457.7**	3.9	47230	21	—	—	—	—	—	—	—	—
HDP 125 4	**506.5**	3.6	49240	19.9	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary



HDP 125 — n_1 = 1500 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 20°C							
					P_T	$P_{TFANL/R}$	P_{TFANLR}	P_{TMCRA5}	P_{TMCRA9}	P_{TSR}	P_{TMCRW5}	P_{TMCRW9}
		[min^{-1}]	[Nm]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
HDP 125 2	**8.9**	168	40210	737	*	*	*	308	386	*	*	343
HDP 125 2	**9.6**	156	40830	696	*	*	294	333	411	*	*	368
HDP 125 2	**11.6**	129	42910	604	*	260	304	343	421	256	284	378
HDP 125 2	**12.5**	120	44240	578	*	274	318	357	435	270	298	392
HDP 125 2	**14.7**	102	43590	486	*	276	320	359	437	272	300	394
HDP 125 2	**15.8**	95	44980	466	193	285	329	368	446	281	309	403
HDP 125 2	**18.0**	83	44090	400	194	286	330	369	447	282	310	404
HDP 125 2	**19.4**	77	45480	383	202	294	338	377	455	290	318	412
HDP 125 2	**23.3**	64	44580	313	203	295	339	378	—	291	319	—
HDP 125 2	**25.0**	60	45950	300	204	296	340	379	—	292	320	—
HDP 125 3	**29.1**	52	40990	235	158	222	254	285	—	221	242	—
HDP 125 3	**31.3**	48	43680	233	160	224	—	287	—	223	244	—
HDP 125 3	**36.7**	41	46030	209	161	225	—	288	—	224	245	—
HDP 125 3	**39.5**	38	46580	197	163	227	—	290	—	226	247	—
HDP 125 3	**45.1**	33	47230	175	163	227	—	290	—	226	247	—
HDP 125 3	**48.5**	31	48720	168	—	—	—	—	—	—	—	—
HDP 125 3	**58.2**	25.8	47750	137	—	—	—	—	—	—	—	—
HDP 125 3	**62.6**	24.0	49240	131	—	—	—	—	—	—	—	—
HDP 125 3	**72.5**	20.7	46680	107	—	—	—	—	—	—	—	—
HDP 125 3	**78.0**	19.2	48180	103	—	—	—	—	—	—	—	—
HDP 125 3	**89.0**	16.9	47230	89	—	—	—	—	—	—	—	—
HDP 125 3	**95.8**	15.7	48720	85	—	—	—	—	—	—	—	—
HDP 125 3	**114.9**	13.1	48230	70	—	—	—	—	—	—	—	—
HDP 125 3	**123.6**	12.1	49240	66	—	—	—	—	—	—	—	—
HDP 125 4	**144.4**	10.4	43000	51	—	—	—	—	—	—	—	—
HDP 125 4	**155.4**	9.7	46280	51	—	—	—	—	—	—	—	—
HDP 125 4	**181.2**	8.3	46680	44	—	—	—	—	—	—	—	—
HDP 125 4	**195.0**	7.7	48180	42	—	—	—	—	—	—	—	—
HDP 125 4	**222.5**	6.7	47230	36	—	—	—	—	—	—	—	—
HDP 125 4	**246.2**	6.1	49240	34	—	—	—	—	—	—	—	—
HDP 125 4	**287.2**	5.2	47750	28	—	—	—	—	—	—	—	—
HDP 125 4	**319.6**	4.7	48180	26	—	—	—	—	—	—	—	—
HDP 125 4	**364.6**	4.1	47230	22	—	—	—	—	—	—	—	—
HDP 125 4	**401.2**	3.7	48180	20	—	—	—	—	—	—	—	—
HDP 125 4	**457.7**	3.3	47230	17.6	—	—	—	—	—	—	—	—
HDP 125 4	**506.5**	3.0	49240	16.6	—	—	—	—	—	—	—	—

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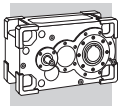
— Thermal verification not necessary



HDP 125 — n_1 = 1500 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 40°C							
					P_T [kW]	$P_{TFANL\,/\,R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 125 2	**8.9**	168	40210	737	*	*	*	*	*	*	*	*
HDP 125 2	**9.6**	156	40830	696	*	*	*	*	*	*	*	304
HDP 125 2	**11.6**	129	42910	604	*	*	*	*	244	*	*	313
HDP 125 2	**12.5**	120	44240	578	*	*	*	*	259	*	234	328
HDP 125 2	**14.7**	102	43590	486	*	*	219	216	260	207	235	329
HDP 125 2	**15.8**	95	44980	466	*	195	228	225	269	216	244	338
HDP 125 2	**18.0**	83	44090	400	*	196	229	226	270	217	245	339
HDP 125 2	**19.4**	77	45480	383	*	205	238	235	279	226	254	348
HDP 125 2	**23.3**	64	44580	313	139	206	239	236	280	227	255	349
HDP 125 2	**25.0**	60	45950	300	140	207	240	237	281	228	256	350
HDP 125 3	**29.1**	52	40990	235	108	155	178	179	210	171	192	260
HDP 125 3	**31.3**	48	43680	233	111	158	181	182	213	174	195	263
HDP 125 3	**36.7**	41	46030	209	112	159	182	183	214	175	196	264
HDP 125 3	**39.5**	38	46580	197	114	161	184	185	—	177	198	—
HDP 125 3	**45.1**	33	47230	175	114	161	184	185	—	177	198	—
HDP 125 3	**48.5**	31	48720	168	116	163	—	187	—	179	200	—
HDP 125 3	**58.2**	25.8	47750	137	116	163	—	187	—	179	200	—
HDP 125 3	**62.6**	24.0	49240	131	—	—	—	—	—	—	—	—
HDP 125 3	**72.5**	20.7	46680	107	—	—	—	—	—	—	—	—
HDP 125 3	**78.0**	19.2	48180	103	—	—	—	—	—	—	—	—
HDP 125 3	**89.0**	16.9	47230	89	—	—	—	—	—	—	—	—
HDP 125 3	**95.8**	15.7	48720	85	—	—	—	—	—	—	—	—
HDP 125 3	**114.9**	13.1	48230	70	—	—	—	—	—	—	—	—
HDP 125 3	**123.6**	12.1	49240	66	—	—	—	—	—	—	—	—
HDP 125 4	**144.4**	10.4	43000	51	—	—	—	—	—	—	—	—
HDP 125 4	**155.4**	9.7	46280	51	—	—	—	—	—	—	—	—
HDP 125 4	**181.2**	8.3	46680	44	—	—	—	—	—	—	—	—
HDP 125 4	**195.0**	7.7	48180	42	—	—	—	—	—	—	—	—
HDP 125 4	**222.5**	6.7	47230	36	—	—	—	—	—	—	—	—
HDP 125 4	**246.2**	6.1	49240	34	—	—	—	—	—	—	—	—
HDP 125 4	**287.2**	5.2	47750	28	—	—	—	—	—	—	—	—
HDP 125 4	**319.6**	4.7	48180	26	—	—	—	—	—	—	—	—
HDP 125 4	**364.6**	4.1	47230	22	—	—	—	—	—	—	—	—
HDP 125 4	**401.2**	3.7	48180	20	—	—	—	—	—	—	—	—
HDP 125 4	**457.7**	3.3	47230	17.6	—	—	—	—	—	—	—	—
HDP 125 4	**506.5**	3.0	49240	16.6	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

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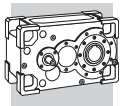
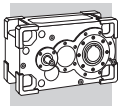


HDP 125 — n_1 = 1200 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 20°C							
					P_T	$P_{TFANL\,/\,R}$	P_{TFANLR}	P_{TMCRA5}	P_{TMCRA9}	P_{TSR}	P_{TMCRW5}	P_{TMCRW9}
		[min^{-1}]	[Nm]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
HDP 125 2	**8.9**	135	42100	617	*	*	280	332	410	*	273	367
HDP 125 2	**9.6**	125	43500	593	*	259	299	351	429	264	292	386
HDP 125 2	**11.6**	103	42910	483	*	266	306	358	436	271	299	393
HDP 125 2	**12.5**	96	44300	463	195	278	318	370	448	283	311	405
HDP 125 2	**14.7**	82	43590	388	196	279	319	371	449	284	312	406
HDP 125 2	**15.8**	76	44980	372	203	286	326	378	—	291	319	413
HDP 125 2	**18.0**	67	44090	320	204	287	327	379	—	292	320	414
HDP 125 2	**19.4**	62	45480	307	210	293	333	385	—	298	326	—
HDP 125 2	**23.3**	52	44580	251	211	294	—	386	—	299	327	—
HDP 125 2	**25.0**	48	45950	240	212	295	—	387	—	300	328	—
HDP 125 3	**29.1**	41	43830	201	163	221	—	290	—	226	247	—
HDP 125 3	**31.3**	38	46710	199	165	223	—	292	—	228	249	—
HDP 125 3	**36.7**	33	46680	170	—	—	—	—	—	—	—	—
HDP 125 3	**39.5**	30	48180	163	—	—	—	—	—	—	—	—
HDP 125 3	**45.1**	26.6	47230	140	—	—	—	—	—	—	—	—
HDP 125 3	**48.5**	24.7	48720	134	—	—	—	—	—	—	—	—
HDP 125 3	**58.2**	20.6	47750	110	—	—	—	—	—	—	—	—
HDP 125 3	**62.6**	19.2	49240	105	—	—	—	—	—	—	—	—
HDP 125 3	**72.5**	16.6	46680	86	—	—	—	—	—	—	—	—
HDP 125 3	**78.0**	15.4	48180	82	—	—	—	—	—	—	—	—
HDP 125 3	**89.0**	13.5	47230	71	—	—	—	—	—	—	—	—
HDP 125 3	**95.8**	12.5	48720	68	—	—	—	—	—	—	—	—
HDP 125 3	**114.9**	10.4	48230	56	—	—	—	—	—	—	—	—
HDP 125 3	**123.6**	9.7	49240	53	—	—	—	—	—	—	—	—
HDP 125 4	**144.4**	8.3	45980	43	—	—	—	—	—	—	—	—
HDP 125 4	**155.4**	7.7	48180	42	—	—	—	—	—	—	—	—
HDP 125 4	**181.2**	6.6	46680	35	—	—	—	—	—	—	—	—
HDP 125 4	**195.0**	6.2	48180	34	—	—	—	—	—	—	—	—
HDP 125 4	**222.5**	5.4	47230	29	—	—	—	—	—	—	—	—
HDP 125 4	**246.2**	4.9	49240	27	—	—	—	—	—	—	—	—
HDP 125 4	**287.2**	4.2	47750	23	—	—	—	—	—	—	—	—
HDP 125 4	**319.6**	3.8	48180	21	—	—	—	—	—	—	—	—
HDP 125 4	**364.6**	3.3	47230	17.6	—	—	—	—	—	—	—	—
HDP 125 4	**401.2**	3.0	48180	16.4	—	—	—	—	—	—	—	—
HDP 125 4	**457.7**	2.6	47230	14.1	—	—	—	—	—	—	—	—
HDP 125 4	**506.5**	2.4	49240	13.2	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary



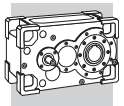
HDP 125

n_1 = 1200 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 40°C							
					P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 125 2	**8.9**	135	42100	617	*	*	*	*	*	*	*	302
HDP 125 2	**9.6**	125	43500	593	*	*	*	*	252	*	*	321
HDP 125 2	**11.6**	103	42910	483	*	*	209	216	260	207	235	329
HDP 125 2	**12.5**	96	44300	463	*	191	220	227	271	218	246	340
HDP 125 2	**14.7**	82	43590	388	*	193	222	229	273	220	248	342
HDP 125 2	**15.8**	76	44980	372	*	200	229	236	280	227	255	349
HDP 125 2	**18.0**	67	44090	320	139	200	229	236	280	227	255	349
HDP 125 2	**19.4**	62	45480	307	146	207	236	243	287	234	262	356
HDP 125 2	**23.3**	52	44580	251	147	208	237	244	288	235	263	—
HDP 125 2	**25.0**	48	45950	240	147	208	237	244	—	235	263	—
HDP 125 3	**29.1**	41	43830	201	114	156	177	185	216	177	198	266
HDP 125 3	**31.3**	38	46710	199	116	158	179	187	—	179	200	—
HDP 125 3	**36.7**	33	46680	170	116	158	179	187	—	179	200	—
HDP 125 3	**39.5**	30	48180	163	118	160	—	189	—	181	202	—
HDP 125 3	**45.1**	26.6	47230	140	118	160	—	189	—	181	202	—
HDP 125 3	**48.5**	24.7	48720	134	—	—	—	—	—	—	—	—
HDP 125 3	**58.2**	20.6	47750	110	—	—	—	—	—	—	—	—
HDP 125 3	**62.6**	19.2	49240	105	—	—	—	—	—	—	—	—
HDP 125 3	**72.5**	16.6	46680	86	—	—	—	—	—	—	—	—
HDP 125 3	**78.0**	15.4	48180	82	—	—	—	—	—	—	—	—
HDP 125 3	**89.0**	13.5	47230	71	—	—	—	—	—	—	—	—
HDP 125 3	**95.8**	12.5	48720	68	—	—	—	—	—	—	—	—
HDP 125 3	**114.9**	10.4	48230	56	—	—	—	—	—	—	—	—
HDP 125 3	**123.6**	9.7	49240	53	—	—	—	—	—	—	—	—
HDP 125 4	**144.4**	8.3	45980	43	—	—	—	—	—	—	—	—
HDP 125 4	**155.4**	7.7	48180	42	—	—	—	—	—	—	—	—
HDP 125 4	**181.2**	6.6	46680	35	—	—	—	—	—	—	—	—
HDP 125 4	**195.0**	6.2	48180	34	—	—	—	—	—	—	—	—
HDP 125 4	**222.5**	5.4	47230	29	—	—	—	—	—	—	—	—
HDP 125 4	**246.2**	4.9	49240	27	—	—	—	—	—	—	—	—
HDP 125 4	**287.2**	4.2	47750	23	—	—	—	—	—	—	—	—
HDP 125 4	**319.6**	3.8	48180	21	—	—	—	—	—	—	—	—
HDP 125 4	**364.6**	3.3	47230	17.6	—	—	—	—	—	—	—	—
HDP 125 4	**401.2**	3.0	48180	16.4	—	—	—	—	—	—	—	—
HDP 125 4	**457.7**	2.6	47230	14.1	—	—	—	—	—	—	—	—
HDP 125 4	**506.5**	2.4	49240	13.2	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

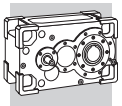


HDP 125 — n_1 = 1000 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 20°C							
		[min^{-1}]	[Nm]	[kW]	P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 125 2	**8.9**	112	42100	514	*	237	269	348	426	261	289	383
HDP 125 2	**9.6**	104	43500	494	*	252	284	363	441	276	304	398
HDP 125 2	**11.6**	86	42910	402	194	258	290	369	447	282	310	404
HDP 125 2	**12.5**	80	44300	386	203	267	299	378	456	291	319	413
HDP 125 2	**14.7**	68	43590	324	205	269	301	380	—	293	321	415
HDP 125 2	**15.8**	63	44980	310	210	274	306	385	—	298	326	—
HDP 125 2	**18.0**	55	44530	269	211	275	—	386	—	299	327	—
HDP 125 2	**19.4**	52	45480	256	216	280	—	391	—	304	332	—
HDP 125 2	**23.3**	43	44580	209	—	—	—	—	—	—	—	—
HDP 125 2	**25.0**	40	45950	200	—	—	—	—	—	—	—	—
HDP 125 3	**29.1**	34	45940	176	167	212	—	294	—	230	251	—
HDP 125 3	**31.3**	32	47450	169	—	—	—	—	—	—	—	—
HDP 125 3	**36.7**	27.2	47150	143	—	—	—	—	—	—	—	—
HDP 125 3	**39.5**	25.3	48180	136	—	—	—	—	—	—	—	—
HDP 125 3	**45.1**	22.2	47230	117	—	—	—	—	—	—	—	—
HDP 125 3	**48.5**	20.6	48720	112	—	—	—	—	—	—	—	—
HDP 125 3	**58.2**	17.2	48230	92	—	—	—	—	—	—	—	—
HDP 125 3	**62.6**	16.0	49240	88	—	—	—	—	—	—	—	—
HDP 125 3	**72.5**	13.8	47150	72	—	—	—	—	—	—	—	—
HDP 125 3	**78.0**	12.8	48180	69	—	—	—	—	—	—	—	—
HDP 125 3	**89.0**	11.2	47230	59	—	—	—	—	—	—	—	—
HDP 125 3	**95.8**	10.4	48720	57	—	—	—	—	—	—	—	—
HDP 125 3	**114.9**	8.7	48230	47	—	—	—	—	—	—	—	—
HDP 125 3	**123.6**	8.1	49240	44	—	—	—	—	—	—	—	—
HDP 125 4	**144.4**	6.9	46680	37	—	—	—	—	—	—	—	—
HDP 125 4	**155.4**	6.4	48180	35	—	—	—	—	—	—	—	—
HDP 125 4	**181.2**	5.5	46680	29	—	—	—	—	—	—	—	—
HDP 125 4	**195.0**	5.1	48180	28	—	—	—	—	—	—	—	—
HDP 125 4	**222.5**	4.5	47230	24	—	—	—	—	—	—	—	—
HDP 125 4	**246.2**	4.1	49240	23	—	—	—	—	—	—	—	—
HDP 125 4	**287.2**	3.5	47750	18.9	—	—	—	—	—	—	—	—
HDP 125 4	**319.6**	3.1	48180	17.1	—	—	—	—	—	—	—	—
HDP 125 4	**364.6**	2.7	47230	14.7	—	—	—	—	—	—	—	—
HDP 125 4	**401.2**	2.5	48180	13.6	—	—	—	—	—	—	—	—
HDP 125 4	**457.7**	2.2	47230	11.7	—	—	—	—	—	—	—	—
HDP 125 4	**506.5**	2.0	49240	11.0	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary



HDP 125 — n_1 = 1000 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 40°C							
					P_T [kW]	$P_{TFANL/R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]
HDP 125 2	**8.9**	112	42100	514	*	*	*	*	249	*	224	318
HDP 125 2	**9.6**	104	43500	494	*	*	*	221	265	212	240	334
HDP 125 2	**11.6**	86	42910	402	*	177	200	227	271	218	246	340
HDP 125 2	**12.5**	80	44300	386	*	186	209	236	280	227	255	349
HDP 125 2	**14.7**	68	43590	324	140	187	210	237	281	228	256	350
HDP 125 2	**15.8**	63	44980	310	146	193	216	243	287	234	262	356
HDP 125 2	**18.0**	55	44530	269	146	193	216	243	287	234	262	356
HDP 125 2	**19.4**	52	45480	256	152	199	222	249	293	240	268	—
HDP 125 2	**23.3**	43	44580	209	152	199	222	249	—	240	268	—
HDP 125 2	**25.0**	40	45950	200	153	200	223	250	—	241	269	—
HDP 125 3	**29.1**	34	45940	176	118	151	167	189	—	181	202	—
HDP 125 3	**31.3**	32	47450	169	119	152	—	190	—	182	203	—
HDP 125 3	**36.7**	27.2	47150	143	120	153	—	191	—	183	204	—
HDP 125 3	**39.5**	25.3	48180	136	—	—	—	—	—	—	—	—
HDP 125 3	**45.1**	22.2	47230	117	—	—	—	—	—	—	—	—
HDP 125 3	**48.5**	20.6	48720	112	—	—	—	—	—	—	—	—
HDP 125 3	**58.2**	17.2	48230	92	—	—	—	—	—	—	—	—
HDP 125 3	**62.6**	16.0	49240	88	—	—	—	—	—	—	—	—
HDP 125 3	**72.5**	13.8	47150	72	—	—	—	—	—	—	—	—
HDP 125 3	**78.0**	12.8	48180	69	—	—	—	—	—	—	—	—
HDP 125 3	**89.0**	11.2	47230	59	—	—	—	—	—	—	—	—
HDP 125 3	**95.8**	10.4	48720	57	—	—	—	—	—	—	—	—
HDP 125 3	**114.9**	8.7	48230	47	—	—	—	—	—	—	—	—
HDP 125 3	**123.6**	8.1	49240	44	—	—	—	—	—	—	—	—
HDP 125 4	**144.4**	6.9	46680	37	—	—	—	—	—	—	—	—
HDP 125 4	**155.4**	6.4	48180	35	—	—	—	—	—	—	—	—
HDP 125 4	**181.2**	5.5	46680	29	—	—	—	—	—	—	—	—
HDP 125 4	**195.0**	5.1	48180	28	—	—	—	—	—	—	—	—
HDP 125 4	**222.5**	4.5	47230	24	—	—	—	—	—	—	—	—
HDP 125 4	**246.2**	4.1	49240	23	—	—	—	—	—	—	—	—
HDP 125 4	**287.2**	3.5	47750	18.9	—	—	—	—	—	—	—	—
HDP 125 4	**319.6**	3.1	48180	17.1	—	—	—	—	—	—	—	—
HDP 125 4	**364.6**	2.7	47230	14.7	—	—	—	—	—	—	—	—
HDP 125 4	**401.2**	2.5	48180	13.6	—	—	—	—	—	—	—	—
HDP 125 4	**457.7**	2.2	47230	11.7	—	—	—	—	—	—	—	—
HDP 125 4	**506.5**	2.0	49240	11.0	—	—	—	—	—	—	—	—

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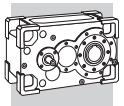
— Thermal verification not necessary

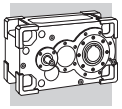


HDP 130 — n_1 = 1800 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 20°C											
					P_T	$P_{TFANL\,/\,R}$	P_{TFANLR}	P_{TMCRA5}	P_{TMCRA9}	$P_{TMCRA21}$	$P_{TMCRA34}$	P_{TSR}	P_{TMCRW5}	P_{TMCRW9}	$P_{TMCRW21}$	$P_{TMCRW34}$
		[min^{-1}]	[Nm]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
HDP 130 2	**7.3**	248	45820	1238	*	*	*	*	*	622	⛔	*	*	*	496	⛔
HDP 130 2	**7.9**	227	48550	1202	*	*	*	*	*	628		*	*	*	502	
HDP 130 2	**8.6**	209	48410	1103	*	*	*	*	*	655		*	*	*	529	
HDP 130 2	**9.4**	191	51170	1068	*	*	*	*	*	660		*	*	*	534	
HDP 130 2	**11.3**	159	53590	930	*	*	450	373	451	694		*	*	408	568	
HDP 130 2	**12.3**	146	54820	872	*	373	454	377	455	698		*	*	412	572	
HDP 130 2	**14.1**	127	54730	760	*	394	475	398	476	719		330	339	433	593	
HDP 130 2	**15.4**	117	56150	714	*	396	477	400	478	721		332	341	435	595	
HDP 130 2	**17.4**	103	58690	661	*	411	492	415	493	736		347	356	450	610	
HDP 130 2	**19.0**	95	62410	644	*	413	494	417	495	738		349	358	452	612	
HDP 130 2	**21.7**	83	64410	584	245	416	497	420	498	741		352	361	455	615	
HDP 130 3	**21.8**	83	62200	572	*	298	356	305	362	538	664	280	262	330	446	668
HDP 130 3	**23.8**	76	62590	527	*	299	357	306	363	539	—	281	263	331	447	669
HDP 130 3	**28.6**	63	65230	457	186	306	364	313	370	546	—	288	270	338	454	676
HDP 130 3	**31.2**	58	62590	401	187	307	365	314	371	547	—	289	271	339	455	—
HDP 130 3	**35.7**	50	62040	348	192	312	370	319	376	—	—	294	276	344	460	—
HDP 130 3	**39.0**	46	62590	321	192	312	370	319	376	—	—	294	276	344	—	—
HDP 130 3	**44.1**	41	64510	293	196	316	—	323	—	—	—	298	280	348	—	—
HDP 130 3	**48.1**	37	62590	260	196	316	—	323	—	—	—	298	280	—	—	—
HDP 130 3	**56.5**	32	65020	230	213	333	—	340	—	—	—	315	297	—	—	—
HDP 130 3	**61.7**	29.2	62270	202	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**70.7**	25.5	64730	183	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**77.1**	23.3	62000	161	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**87.2**	20.7	64510	148	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**95.1**	18.9	62590	132	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**108.3**	16.6	58960	109	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**111.2**	16.2	57640	106	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**121.4**	14.8	62590	105	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**139.0**	13.0	65230	96	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**151.7**	11.9	62590	84	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**176.7**	10.2	64840	75	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**192.9**	9.3	62590	66	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**217.9**	8.3	64510	61	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**237.9**	7.6	62590	54	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**274.5**	6.6	65230	49	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**299.6**	6.0	62590	43	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**348.9**	5.2	65230	38	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**380.9**	4.7	62590	34	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**469.8**	3.8	62590	27	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**534.5**	3.4	58960	23	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

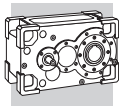


HDP 130 — n_1 = 1800 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 40°C											
					P_T	$P_{TFANL\ /\ R}$	P_{TFANLR}	P_{TMCRA5}	P_{TMCRA9}	$P_{TMCRA21}$	$P_{TMCRA34}$	P_{TSR}	P_{TMCRW5}	P_{TMCRW9}	$P_{TMCRW21}$	$P_{TMCRW34}$
		[min^{-1}]	[Nm]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
HDP 130 2	**7.3**	248	45820	1238	*	*	*	*	*	*		*	*	*	*	
HDP 130 2	**7.9**	227	48550	1202	*	*	*	*	*	*		*	*	*	*	
HDP 130 2	**8.6**	209	48410	1103	*	*	*	*	*	*		*	*	*	446	
HDP 130 2	**9.4**	191	51170	1068	*	*	*	*	*	*		*	*	*	451	
HDP 130 2	**11.3**	159	53590	930	*	*	*	*	*	392		*	*	*	486	
HDP 130 2	**12.3**	146	54820	872	*	*	*	*	*	396	⛔	*	*	*	490	⛔
HDP 130 2	**14.1**	127	54730	760	*	*	325	*	*	416		*	*	350	510	
HDP 130 2	**15.4**	117	56150	714	*	*	328	*	*	419		*	*	353	513	
HDP 130 2	**17.4**	103	58690	661	*	283	343	*	299	434		265	274	368	528	
HDP 130 2	**19.0**	95	62410	644	*	285	345	*	301	436		267	276	370	530	
HDP 130 2	**21.7**	83	64410	584	*	288	348	260	304	439		270	279	373	533	
HDP 130 3	**21.8**	83	62200	572	*	*	244	*	*	314	384	*	*	266	382	604
HDP 130 3	**23.8**	76	62590	527	*	*	245	*	217	315	385	217	*	267	383	605
HDP 130 3	**28.6**	63	65230	457	*	210	252	193	224	322	392	224	206	274	390	612
HDP 130 3	**31.2**	58	62590	401	*	211	253	194	225	323	393	225	207	275	391	613
HDP 130 3	**35.7**	50	62040	348	*	215	257	198	229	327	397	229	211	279	395	—
HDP 130 3	**39.0**	46	62590	321	*	216	258	199	230	328	—	230	212	280	396	—
HDP 130 3	**44.1**	41	64510	293	131	219	261	202	233	331	—	233	215	283	399	—
HDP 130 3	**48.1**	37	62590	260	132	220	262	203	234	332	—	234	216	284	—	—
HDP 130 3	**56.5**	32	65020	230	149	237	—	220	251	—	—	251	233	—	—	—
HDP 130 3	**61.7**	29.2	62270	202	149	237	—	220	—	—	—	251	233	—	—	—
HDP 130 3	**70.7**	25.5	64730	183	152	240	—	223	—	—	—	254	236	—	—	—
HDP 130 3	**77.1**	23.3	62000	161	152	240	—	223	—	—	—	254	236	—	—	—
HDP 130 3	**87.2**	20.7	64510	148	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**95.1**	18.9	62590	132	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**108.3**	16.6	58960	109	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**111.2**	16.2	57640	106	93	160	—	148	—	—	—	171	159	—	—	—
HDP 130 4	**121.4**	14.8	62590	105	93	160	—	148	—	—	—	171	159	—	—	—
HDP 130 4	**139.0**	13.0	65230	96	94	161	—	149	—	—	—	172	160	—	—	—
HDP 130 4	**151.7**	11.9	62590	84	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**176.7**	10.2	64840	75	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**192.9**	9.3	62590	66	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**217.9**	8.3	64510	61	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**237.9**	7.6	62590	54	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**274.5**	6.6	65230	49	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**299.6**	6.0	62590	43	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**348.9**	5.2	65230	38	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**380.9**	4.7	62590	34	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**469.8**	3.8	62590	27	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**534.5**	3.4	58960	23	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

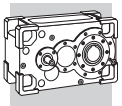


HDP 130 — n_1 = 1500 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 20°C											
					P_T	$P_{TFANL\,/\,R}$	P_{TFANLR}	P_{TMCRA5}	P_{TMCRA9}	$P_{TMCRA21}$	$P_{TMCRA34}$	P_{TSR}	P_{TMCRW5}	P_{TMCRW9}	$P_{TMCRW21}$	$P_{TMCRW34}$
		[min^{-1}]	[Nm]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
HDP 130 2	**7.3**	207	48400	1090	*	*	*	*	*	663		*	*	*	537	
HDP 130 2	**7.9**	189	51280	1058	*	*	*	*	425	668		*	*	*	542	
HDP 130 2	**8.6**	174	51140	971	*	*	411	*	445	688		*	*	402	562	
HDP 130 2	**9.4**	160	54050	940	*	*	415	*	449	692		*	*	406	566	
HDP 130 2	**11.3**	133	56600	819	*	372	442	398	476	719		330	339	433	593	
HDP 130 2	**12.3**	122	57900	767	*	375	445	401	479	722	⛔	333	342	436	596	⛔
HDP 130 2	**14.1**	106	57810	669	*	391	461	417	495	738		349	358	452	612	
HDP 130 2	**15.4**	97	59300	629	*	393	463	419	497	740		351	360	454	614	
HDP 130 2	**17.4**	86	61990	582	255	404	474	430	508	751		362	371	465	625	
HDP 130 2	**19.0**	79	63860	549	257	406	476	432	510	753		364	373	467	627	
HDP 130 2	**21.7**	69	64070	484	259	408	478	434	512	—		366	375	469	629	
HDP 130 3	**21.8**	69	65950	505	*	296	347	319	376	552	—	294	276	344	460	682
HDP 130 3	**23.8**	63	63450	445	193	297	348	320	377	553	—	295	277	345	461	—
HDP 130 3	**28.6**	52	65790	384	198	302	353	325	382	558	—	300	282	350	466	—
HDP 130 3	**31.2**	48	62990	337	199	303	354	326	383	—	—	301	283	351	—	—
HDP 130 3	**35.7**	42	65430	305	202	306	—	329	—	—	—	304	286	354	—	—
HDP 130 3	**39.0**	38	62650	268	203	307	—	330	—	—	—	305	287	—	—	—
HDP 130 3	**44.1**	34	65120	246	205	309	—	332	—	—	—	307	289	—	—	—
HDP 130 3	**48.1**	31	62360	216	206	310	—	333	—	—	—	308	290	—	—	—
HDP 130 3	**56.5**	26.5	64780	191	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**61.7**	24.3	62050	168	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**70.7**	21.2	65650	155	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**77.1**	19.4	62890	136	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**87.2**	17.2	67750	130	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**95.1**	15.8	64910	114	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**108.3**	13.9	63140	97	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**111.2**	13.5	61600	94	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**121.4**	12.4	66770	94	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**139.0**	10.8	69570	85	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**151.7**	9.9	66770	75	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**176.7**	8.5	69350	67	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**192.9**	7.8	66770	59	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**217.9**	6.9	69570	54	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**237.9**	6.3	66770	48	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**274.5**	5.5	69570	43	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**299.6**	5.0	66770	38	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**348.9**	4.3	69570	34	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**380.9**	3.9	66770	30	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**469.8**	3.2	66770	24	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**534.5**	2.8	63140	20	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

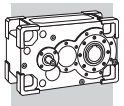


HDP 130 — n_1 = 1500 min^{-1}

					t_a = 40°C											
	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	P_T [kW]	$P_{TFANL\,/\,R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	$P_{TMCRA21}$ [kW]	$P_{TMCRA34}$ [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]	$P_{TMCRW21}$ [kW]	$P_{TMCRW34}$ [kW]
HDP 130 2	**7.3**	207	48400	1090	*	*	*	*	*	*		*	*	*	455	
HDP 130 2	**7.9**	189	51280	1058	*	*	*	*	*	*		*	*	*	460	
HDP 130 2	**8.6**	174	51140	971	*	*	*	*	*	*		*	*	*	480	
HDP 130 2	**9.4**	160	54050	940	*	*	*	*	*	390		*	*	*	484	
HDP 130 2	**11.3**	133	56600	819	*	*	*	*	*	417		*	*	351	511	
HDP 130 2	**12.3**	122	57900	767	*	*	*	*	*	419	⛔	*	*	353	513	⛔
HDP 130 2	**14.1**	106	57810	669	*	268	320	*	300	435		*	275	369	529	
HDP 130 2	**15.4**	97	59300	629	*	270	322	258	302	437		268	277	371	531	
HDP 130 2	**17.4**	86	61990	582	*	282	334	270	314	449		280	289	383	543	
HDP 130 2	**19.0**	79	63860	549	*	283	335	271	315	450		281	290	384	544	
HDP 130 2	**21.7**	69	64070	484	*	286	338	274	318	453		284	293	387	547	
HDP 130 3	**21.8**	69	65950	505	*	203	240	*	229	327	397	229	211	279	395	617
HDP 130 3	**23.8**	63	63450	445	*	204	241	199	230	328	398	230	212	280	396	618
HDP 130 3	**28.6**	52	65790	384	*	210	247	205	236	334	404	236	218	286	402	—
HDP 130 3	**31.2**	48	62990	337	*	211	248	206	237	335	405	237	219	287	403	—
HDP 130 3	**35.7**	42	65430	305	138	214	251	209	240	338	—	240	222	290	406	—
HDP 130 3	**39.0**	38	62650	268	139	215	252	210	241	339	—	241	223	291	—	—
HDP 130 3	**44.1**	34	65120	246	141	217	254	212	243	341	—	243	225	293	—	—
HDP 130 3	**48.1**	31	62360	216	142	218	—	213	244	—	—	244	226	—	—	—
HDP 130 3	**56.5**	26.5	64780	191	155	231	—	226	—	—	—	257	239	—	—	—
HDP 130 3	**61.7**	24.3	62050	168	155	231	—	226	—	—	—	257	239	—	—	—
HDP 130 3	**70.7**	21.2	65650	155	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**77.1**	19.4	62890	136	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**87.2**	17.2	67750	130	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**95.1**	15.8	64910	114	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**108.3**	13.9	63140	97	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**111.2**	13.5	61600	94	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**121.4**	12.4	66770	94	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**139.0**	10.8	69570	85	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**151.7**	9.9	66770	75	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**176.7**	8.5	69350	67	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**192.9**	7.8	66770	59	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**217.9**	6.9	69570	54	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**237.9**	6.3	66770	48	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**274.5**	5.5	69570	43	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**299.6**	5.0	66770	38	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**348.9**	4.3	69570	34	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**380.9**	3.9	66770	30	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**469.8**	3.2	66770	24	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**534.5**	2.8	63140	20	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

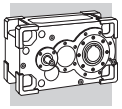


HDP 130 — n_1 = 1200 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 20°C											
					P_T	$P_{TFANL\,/\,R}$	P_{TFANLR}	P_{TMCRA5}	P_{TMCRA9}	$P_{TMCRA21}$	$P_{TMCRA34}$	P_{TSR}	P_{TMCRW5}	P_{TMCRW9}	$P_{TMCRW21}$	$P_{TMCRW34}$
		[min^{-1}]	[Nm]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
HDP 130 2	**7.3**	165	51750	932	*	*	395	*	451	694		*	*	408	568	
HDP 130 2	**7.9**	151	54830	905	*	*	398	376	454	697		*	*	411	571	
HDP 130 2	**8.6**	139	54680	831	*	351	414	392	470	713		*	333	427	587	
HDP 130 2	**9.4**	128	57790	804	*	354	417	395	473	716		327	336	430	590	
HDP 130 2	**11.3**	106	60520	700	*	375	438	416	494	737		348	357	451	611	
HDP 130 2	**12.3**	97	61910	656	*	377	440	418	496	739	⛔	350	359	453	613	⛔
HDP 130 2	**14.1**	85	61810	572	256	390	453	431	509	752		363	372	466	626	
HDP 130 2	**15.4**	78	63410	538	257	391	454	432	510	753		364	373	467	627	
HDP 130 2	**17.4**	69	66280	497	266	400	463	441	519	—		373	382	476	636	
HDP 130 2	**19.0**	63	63450	436	267	401	464	442	—	—		374	383	477	—	
HDP 130 2	**21.7**	55	63690	385	269	403	—	444	—	—		376	385	—	—	
HDP 130 3	**21.8**	55	65880	404	202	296	341	329	386	562	—	304	286	354	470	—
HDP 130 3	**23.8**	50	63070	354	203	297	342	330	387	—	—	305	287	355	—	—
HDP 130 3	**28.6**	42	65430	305	207	301	346	334	—	—	—	309	291	359	—	—
HDP 130 3	**31.2**	38	62650	268	208	302	—	335	—	—	—	310	292	—	—	—
HDP 130 3	**35.7**	34	65100	243	210	304	—	337	—	—	—	312	294	—	—	—
HDP 130 3	**39.0**	31	62340	213	211	305	—	338	—	—	—	313	295	—	—	—
HDP 130 3	**44.1**	27.2	64820	196	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**48.1**	24.9	62080	172	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**56.5**	21.2	65650	155	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**61.7**	19.4	62890	136	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**70.7**	17.0	67880	128	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**77.1**	15.6	65050	113	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**87.2**	13.8	69570	107	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**95.1**	12.6	66770	94	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**108.3**	11.1	63140	78	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**111.2**	10.8	66220	81	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**121.4**	9.9	66770	75	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**139.0**	8.6	69570	68	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**151.7**	7.9	66770	60	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**176.7**	6.8	69570	54	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**192.9**	6.2	66770	47	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**217.9**	5.5	69570	43	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**237.9**	5.0	66770	38	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**274.5**	4.4	69570	35	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**299.6**	4.0	66770	30	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**348.9**	3.4	69570	27.2	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**380.9**	3.2	66770	23.9	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**469.8**	2.6	66770	19.4	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**534.5**	2.2	63140	16.1	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

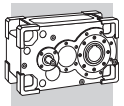


HDP 130 — n_1 = 1200 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 40°C											
					P_T	$P_{TFANL\,/\,R}$	P_{TFANLR}	P_{TMCRA5}	P_{TMCRA9}	$P_{TMCRA21}$	$P_{TMCRA34}$	P_{TSR}	P_{TMCRW5}	P_{TMCRW9}	$P_{TMCRW21}$	$P_{TMCRW34}$
		[min^{-1}]	[Nm]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
HDP 130 2	**7.3**	165	51750	932	*	*	*	*	*	391		*	*	*	485	
HDP 130 2	**7.9**	151	54830	905	*	*	*	*	*	395		*	*	*	489	
HDP 130 2	**8.6**	139	54680	831	*	*	*	*	*	411		*	*	345	505	
HDP 130 2	**9.4**	128	57790	804	*	*	*	*	*	414		*	*	348	508	
HDP 130 2	**11.3**	106	60520	700	*	*	304	*	300	435		*	*	369	529	
HDP 130 2	**12.3**	97	61910	656	*	*	306	*	302	437	⛔	268	277	371	531	⛔
HDP 130 2	**14.1**	85	61810	572	*	271	318	270	314	449		280	289	383	543	
HDP 130 2	**15.4**	78	63410	538	*	273	320	272	316	451		282	291	385	545	
HDP 130 2	**17.4**	69	66280	497	*	282	329	281	325	460		291	300	394	554	
HDP 130 2	**19.0**	63	63450	436	185	283	330	282	326	461		292	301	395	555	
HDP 130 2	**21.7**	55	63690	385	187	285	332	284	328	463		294	303	397	—	
HDP 130 3	**21.8**	55	65880	404	*	207	240	209	240	338	408	240	222	290	406	—
HDP 130 3	**23.8**	50	63070	354	*	207	240	209	240	338	408	240	222	290	406	—
HDP 130 3	**28.6**	42	65430	305	143	212	245	214	245	343	—	245	227	295	411	—
HDP 130 3	**31.2**	38	62650	268	143	212	245	214	245	343	—	245	227	295	—	—
HDP 130 3	**35.7**	34	65100	243	146	215	248	217	248	—	—	248	230	298	—	—
HDP 130 3	**39.0**	31	62340	213	146	215	—	217	—	—	—	248	230	—	—	—
HDP 130 3	**44.1**	27.2	64820	196	148	217	—	219	—	—	—	250	232	—	—	—
HDP 130 3	**48.1**	24.9	62080	172	149	218	—	220	—	—	—	251	233	—	—	—
HDP 130 3	**56.5**	21.2	65650	155	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**61.7**	19.4	62890	136	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**70.7**	17.0	67880	128	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**77.1**	15.6	65050	113	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**87.2**	13.8	69570	107	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**95.1**	12.6	66770	94	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**108.3**	11.1	63140	78	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**111.2**	10.8	66220	81	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**121.4**	9.9	66770	75	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**139.0**	8.6	69570	68	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**151.7**	7.9	66770	60	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**176.7**	6.8	69570	54	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**192.9**	6.2	66770	47	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**217.9**	5.5	69570	43	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**237.9**	5.0	66770	38	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**274.5**	4.4	69570	35	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**299.6**	4.0	66770	30	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**348.9**	3.4	69570	27.2	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**380.9**	3.2	66770	23.9	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**469.8**	2.6	66770	19.4	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**534.5**	2.2	63140	16.1	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

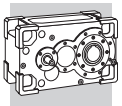


HDP 130 — n_1 = 1000 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 20°C											
					P_T	$P_{TFANL\,/\,R}$	P_{TFANLR}	P_{TMCRA5}	P_{TMCRA9}	$P_{TMCRA21}$	$P_{TMCRA34}$	P_{TSR}	P_{TMCRW5}	P_{TMCRW9}	$P_{TMCRW21}$	$P_{TMCRW34}$
		[min^{-1}]	[Nm]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
HDP 130 2	**7.3**	138	54660	821	*	*	373	394	472	715		*	335	429	589	
HDP 130 2	**7.9**	126	57910	796	*	326	376	397	475	718		329	338	432	592	
HDP 130 2	**8.6**	116	57750	731	*	338	388	409	487	730		341	350	444	604	
HDP 130 2	**9.4**	106	61040	708	*	341	391	412	490	733		344	353	447	607	
HDP 130 2	**11.3**	88	63920	616	254	358	408	429	507	750		361	370	464	624	
HDP 130 2	**12.3**	81	63920	565	255	359	409	430	508	751	⛔	362	371	465	625	⛔
HDP 130 2	**14.1**	71	65290	504	265	369	419	440	518	—		372	381	475	635	
HDP 130 2	**15.4**	65	63500	449	267	371	421	442	520	—		374	383	477	—	
HDP 130 2	**17.4**	57	65950	413	274	378	428	449	—	—		381	390	484	—	
HDP 130 2	**19.0**	53	63140	362	275	379	—	450	—	—		382	391	—	—	
HDP 130 2	**21.7**	46	63390	319	276	380	—	451	—	—		383	392	—	—	
HDP 130 3	**21.8**	46	65570	335	209	282	317	336	—	—	—	311	293	361	—	—
HDP 130 3	**23.8**	42	62780	294	210	283	318	337	—	—	—	312	294	362	—	—
HDP 130 3	**28.6**	35	65160	253	213	286	—	340	—	—	—	315	297	—	—	—
HDP 130 3	**31.2**	32	62400	222	213	286	—	340	—	—	—	315	297	—	—	—
HDP 130 3	**35.7**	28.0	64850	202	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**39.0**	25.6	62110	177	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**44.1**	22.7	65010	164	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**48.1**	20.8	62270	144	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**56.5**	17.7	67470	133	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**61.7**	16.2	64640	117	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**70.7**	14.2	69570	110	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**77.1**	13.0	66770	96	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**87.2**	11.5	69570	89	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**95.1**	10.5	66770	78	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**108.3**	9.2	63140	65	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**111.2**	9.0	69570	71	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**121.4**	8.2	66770	62	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**139.0**	7.2	69570	57	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**151.7**	6.6	66770	50	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**176.7**	5.7	69570	45	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**192.9**	5.2	66770	39	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**217.9**	4.6	69570	36	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**237.9**	4.2	66770	32	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**274.5**	3.6	69570	29	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**299.6**	3.3	66770	25	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**348.9**	2.9	69570	23	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**380.9**	2.6	66770	19.9	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**469.8**	2.1	66770	16.1	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**534.5**	1.9	63140	13.4	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

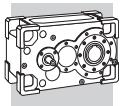


HDP 130 — n_1 = 1000 min^{-1}

					t_a = 40°C											
	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	P_T [kW]	$P_{TFANL\,/\,R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	$P_{TMCRA21}$ [kW]	$P_{TMCRA34}$ [kW]	P_{TSR} [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]	$P_{TMCRW21}$ [kW]	$P_{TMCRW34}$ [kW]
HDP 130 2	**7.3**	138	54660	821	*	*	*	*	*	412		*	*	346	506	
HDP 130 2	**7.9**	126	57910	796	*	*	*	*	*	415		*	*	349	509	
HDP 130 2	**8.6**	116	57750	731	*	*	*	*	293	428		*	*	362	522	
HDP 130 2	**9.4**	106	61040	708	*	*	*	*	295	430		*	*	364	524	
HDP 130 2	**11.3**	88	63920	616	*	247	284	268	312	447		278	287	381	541	
HDP 130 2	**12.3**	81	63920	565	*	249	286	270	314	449	⛔	280	289	383	543	⛔
HDP 130 2	**14.1**	71	65290	504	*	259	296	280	324	459		290	299	393	553	
HDP 130 2	**15.4**	65	63500	449	184	260	297	281	325	460		291	300	394	554	
HDP 130 2	**17.4**	57	65950	413	191	267	304	288	332	467		298	307	401	561	
HDP 130 2	**19.0**	53	63140	362	192	268	305	289	333	468		299	308	402	—	
HDP 130 2	**21.7**	46	63390	319	194	270	307	291	335	—		301	310	404	—	
HDP 130 3	**21.8**	46	65570	335	145	198	224	216	247	345	—	247	229	297	413	—
HDP 130 3	**23.8**	42	62780	294	145	198	224	216	247	345	—	247	229	297	—	—
HDP 130 3	**28.6**	35	65160	253	149	202	228	220	251	349	—	251	233	301	—	—
HDP 130 3	**31.2**	32	62400	222	149	202	228	220	251	—	—	251	233	—	—	—
HDP 130 3	**35.7**	28.0	64850	202	151	204	—	222	—	—	—	253	235	—	—	—
HDP 130 3	**39.0**	25.6	62110	177	152	205	—	223	—	—	—	254	236	—	—	—
HDP 130 3	**44.1**	22.7	65010	164	153	206	—	224	—	—	—	255	237	—	—	—
HDP 130 3	**48.1**	20.8	62270	144	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**56.5**	17.7	67470	133	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**61.7**	16.2	64640	117	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**70.7**	14.2	69570	110	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**77.1**	13.0	66770	96	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**87.2**	11.5	69570	89	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**95.1**	10.5	66770	78	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 3	**108.3**	9.2	63140	65	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**111.2**	9.0	69570	71	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**121.4**	8.2	66770	62	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**139.0**	7.2	69570	57	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**151.7**	6.6	66770	50	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**176.7**	5.7	69570	45	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**192.9**	5.2	66770	39	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**217.9**	4.6	69570	36	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**237.9**	4.2	66770	32	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**274.5**	3.6	69570	29	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**299.6**	3.3	66770	25	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**348.9**	2.9	69570	23	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**380.9**	2.6	66770	19.9	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**469.8**	2.1	66770	16.1	—	—	—	—	—	—	—	—	—	—	—	—
HDP 130 4	**534.5**	1.9	63140	13.4	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

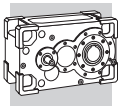


HDP 140 — n_1 = 1800 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 20°C											
					P_T	$P_{TFANL\,/\,R}$	P_{TFANLR}	P_{TMCRA5}	P_{TMCRA9}	$P_{TMCRA21}$	$P_{TMCRA34}$	P_{TSR}	P_{TMCRW5}	P_{TMCRW9}	$P_{TMCRW21}$	$P_{TMCRW34}$
		[min^{-1}]	[Nm]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
HDP 140 2	**8.4**	215	52740	1238	*	*	*	*	*	623		*	*	*	497	
HDP 140 2	**9.3**	195	58360	1238	*	*	*	*	*	632		*	*	*	506	
HDP 140 2	**9.9**	182	55720	1103	*	*	*	*	*	658		*	*	*	532	
HDP 140 2	**11.0**	164	61660	1103	*	*	*	*	*	665		*	*	*	539	
HDP 140 2	**13.0**	138	63200	953	*	*	457	*	458	701		*	*	415	575	
HDP 140 2	**14.4**	125	69940	953	*	*	462	385	463	706	⛔	*	*	420	580	⛔
HDP 140 2	**16.3**	111	71870	867	*	402	483	406	484	727		*	*	441	601	
HDP 140 2	**18.0**	100	77420	844	*	405	486	409	487	730		341	350	444	604	
HDP 140 2	**20.1**	90	67550	661	*	420	501	424	502	745		356	365	459	619	
HDP 140 2	**22.2**	81	74750	661	*	423	504	427	505	748		359	368	462	622	
HDP 140 2	**24.9**	72	82150	646	*	426	507	430	508	751		362	371	465	625	
HDP 140 3	**25.1**	72	71610	572	*	305	363	312	369	545	671	287	269	337	453	675
HDP 140 3	**27.7**	65	79250	572	*	306	364	313	370	546	672	288	270	338	454	676
HDP 140 3	**32.9**	55	80680	491	*	314	372	321	378	554	—	296	278	346	462	684
HDP 140 3	**36.4**	49	80850	445	195	315	373	322	379	555	—	297	279	347	463	—
HDP 140 3	**41.1**	44	80350	391	200	320	378	327	384	560	—	302	284	352	468	—
HDP 140 3	**45.5**	40	80850	356	200	320	378	327	384	—	—	302	284	352	468	—
HDP 140 3	**50.7**	35	74300	293	204	324	—	331	—	—	—	306	288	356	—	—
HDP 140 3	**56.2**	32	80850	288	204	324	—	331	—	—	—	306	288	—	—	—
HDP 140 3	**65.1**	27.7	82330	253	222	342	—	349	—	—	—	324	306	—	—	—
HDP 140 3	**72.0**	25.0	80850	225	222	342	—	349	—	—	—	324	306	—	—	—
HDP 140 3	**81.3**	22.1	81510	201	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**90.0**	20.0	80850	180	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**100.3**	17.9	74300	148	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**111.0**	16.2	80850	146	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**124.7**	14.4	73920	119	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**141.6**	12.7	73370	106	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**160.0**	11.3	81510	104	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**177.0**	10.2	80850	93	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**197.3**	9.1	74300	77	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**225.0**	8.0	80850	73	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**250.8**	7.2	74300	61	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**277.5**	6.5	80850	60	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**315.9**	5.7	81510	53	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**349.6**	5.1	80850	47	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**401.6**	4.5	81510	41	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**444.4**	4.1	80850	37	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**495.3**	3.6	74300	31	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

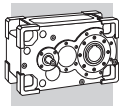


HDP 140 — n_1 = 1800 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 40°C											
					P_T	$P_{TFANL\ /\ R}$	P_{TFANLR}	P_{TMCRA5}	P_{TMCRA9}	$P_{TMCRA21}$	$P_{TMCRA34}$	P_{TSR}	P_{TMCRW5}	P_{TMCRW9}	$P_{TMCRW21}$	$P_{TMCRW34}$
		[min^{-1}]	[Nm]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
HDP 140 2	**8.4**	215	52740	1238	*	*	*	*	*	*		*	*	*	*	
HDP 140 2	**9.3**	195	58360	1238	*	*	*	*	*	*		*	*	*	*	
HDP 140 2	**9.9**	182	55720	1103	*	*	*	*	*	*		*	*	*	447	
HDP 140 2	**11.0**	164	61660	1103	*	*	*	*	*	*		*	*	*	453	
HDP 140 2	**13.0**	138	63200	953	*	*	*	*	*	395		*	*	*	489	
HDP 140 2	**14.4**	125	69940	953	*	*	*	*	*	400	ⓘ	*	*	*	494	ⓘ
HDP 140 2	**16.3**	111	71870	867	*	*	*	*	*	421		*	*	355	515	
HDP 140 2	**18.0**	100	77420	844	*	*	*	*	*	425		*	*	359	519	
HDP 140 2	**20.1**	90	67550	661	*	288	348	*	304	439		270	279	373	533	
HDP 140 2	**22.2**	81	74750	661	*	291	351	*	307	442		273	282	376	536	
HDP 140 2	**24.9**	72	82150	646	*	294	354	266	310	445		276	285	379	539	
HDP 140 3	**25.1**	72	71610	572	*	*	248	*	*	318	388	*	*	270	386	608
HDP 140 3	**27.7**	65	79250	572	*	*	250	*	*	320	390	*	*	272	388	610
HDP 140 3	**32.9**	55	80680	491	*	215	257	198	229	327	397	229	211	279	395	617
HDP 140 3	**36.4**	49	80850	445	*	216	258	199	230	328	398	230	212	280	396	618
HDP 140 3	**41.1**	44	80350	391	*	221	263	204	235	333	403	235	217	285	401	—
HDP 140 3	**45.5**	40	80850	356	*	222	264	205	236	334	404	236	218	286	402	—
HDP 140 3	**50.7**	35	74300	293	137	225	267	208	239	337	—	239	221	289	405	—
HDP 140 3	**56.2**	32	80850	288	138	226	268	209	240	338	—	240	222	290	—	—
HDP 140 3	**65.1**	27.7	82330	253	155	243	285	226	257	—	—	257	239	307	—	—
HDP 140 3	**72.0**	25.0	80850	225	155	243	—	226	—	—	—	257	239	—	—	—
HDP 140 3	**81.3**	22.1	81510	201	158	246	—	229	—	—	—	260	242	—	—	—
HDP 140 3	**90.0**	20.0	80850	180	158	246	—	229	—	—	—	260	242	—	—	—
HDP 140 3	**100.3**	17.9	74300	148	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**111.0**	16.2	80850	146	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**124.7**	14.4	73920	119	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**141.6**	12.7	73370	106	96	163	—	151	—	—	—	174	162	—	—	—
HDP 140 4	**160.0**	11.3	81510	104	98	165	—	153	—	—	—	176	164	—	—	—
HDP 140 4	**177.0**	10.2	80850	93	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**197.3**	9.1	74300	77	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**225.0**	8.0	80850	73	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**250.8**	7.2	74300	61	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**277.5**	6.5	80850	60	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**315.9**	5.7	81510	53	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**349.6**	5.1	80850	47	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**401.6**	4.5	81510	41	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**444.4**	4.1	80850	37	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**495.3**	3.6	74300	31	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

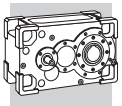


HDP 140 — n_1 = 1500 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 20°C											
					P_T	$P_{TFANL\,/\,R}$	P_{TFANLR}	P_{TMCRA5}	P_{TMCRA9}	$P_{TMCRA21}$	$P_{TMCRA34}$	P_{TSR}	P_{TMCRW5}	P_{TMCRW9}	$P_{TMCRW21}$	$P_{TMCRW34}$
		[min^{-1}]	[Nm]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
HDP 140 2	**8.4**	179	55710	1090	*	*	*	*	*	667		*	*	*	541	
HDP 140 2	**9.3**	162	61640	1090	*	*	*	*	*	674		*	*	*	548	
HDP 140 2	**9.9**	151	58850	971	*	*	417	*	451	694		*	*	408	568	
HDP 140 2	**11.0**	137	65130	971	*	*	423	*	457	700		*	*	414	574	
HDP 140 2	**13.0**	115	66760	839	*	380	450	406	484	727		338	347	441	601	
HDP 140 2	**14.4**	104	73870	839	*	384	454	410	488	731	⛔	342	351	445	605	⛔
HDP 140 2	**16.3**	92	75910	763	*	400	470	426	504	747		358	367	461	621	
HDP 140 2	**18.0**	83	81780	743	*	403	473	429	507	750		361	370	464	624	
HDP 140 2	**20.1**	75	71350	582	265	414	484	440	518	761		372	381	475	635	
HDP 140 2	**22.2**	68	78950	582	267	416	486	442	520	763		374	383	477	637	
HDP 140 2	**24.9**	60	82230	539	270	419	489	445	523	766		377	386	480	640	
HDP 140 3	**25.1**	60	75910	505	*	303	354	326	383	559	—	301	283	351	467	689
HDP 140 3	**27.7**	54	82930	499	200	304	355	327	384	560	—	302	284	352	468	690
HDP 140 3	**32.9**	46	84810	430	206	310	361	333	390	566	—	308	290	358	474	—
HDP 140 3	**36.4**	41	82330	377	207	311	362	334	391	—	—	309	291	359	475	—
HDP 140 3	**41.1**	36	84810	344	210	314	365	337	394	—	—	312	294	362	—	—
HDP 140 3	**45.5**	33	81890	300	211	315	—	338	—	—	—	313	295	363	—	—
HDP 140 3	**50.7**	29.6	82170	270	214	318	—	341	—	—	—	316	298	—	—	—
HDP 140 3	**56.2**	26.7	81510	242	214	318	—	341	—	—	—	316	298	—	—	—
HDP 140 3	**65.1**	23.1	84810	218	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**72.0**	20.8	81100	188	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**81.3**	18.4	84810	174	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**90.0**	16.7	82200	152	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**100.3**	15.0	82170	137	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**111.0**	13.5	84850	128	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**124.7**	12.0	78870	106	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**141.6**	10.6	78480	94	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**160.0**	9.4	84820	90	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**177.0**	8.5	87060	84	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**197.3**	7.6	81580	70	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**225.0**	6.7	87060	66	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**250.8**	6.0	81230	55	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**277.5**	5.4	87060	53	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**315.9**	4.7	84820	46	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**349.6**	4.3	87060	42	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**401.6**	3.7	84820	36	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**444.4**	3.4	87060	33	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**495.3**	3.0	82170	28	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

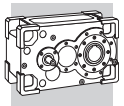


HDP 140 — n_1 = 1500 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 40°C											
					P_T	$P_{TFANL\,/\,R}$	P_{TFANLR}	P_{TMCRA5}	P_{TMCRA9}	$P_{TMCRA21}$	$P_{TMCRA34}$	P_{TSR}	P_{TMCRW5}	P_{TMCRW9}	$P_{TMCRW21}$	$P_{TMCRW34}$
		[min^{-1}]	[Nm]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
HDP 140 2	**8.4**	179	55710	1090	*	*	*	*	*	*		*	*	*	456	
HDP 140 2	**9.3**	162	61640	1090	*	*	*	*	*	*		*	*	*	462	
HDP 140 2	**9.9**	151	58850	971	*	*	*	*	*	388		*	*	*	482	
HDP 140 2	**11.0**	137	65130	971	*	*	*	*	*	394		*	*	*	488	
HDP 140 2	**13.0**	115	66760	839	*	*	*	*	*	421		*	*	355	515	
HDP 140 2	**14.4**	104	73870	839	*	*	*	*	*	425	ⓘ	*	*	359	519	ⓘ
HDP 140 2	**16.3**	92	75910	763	*	*	326	*	306	441		*	*	375	535	
HDP 140 2	**18.0**	83	81780	743	*	*	329	*	309	444		*	*	378	538	
HDP 140 2	**20.1**	75	71350	582	*	288	340	276	320	455		286	295	389	549	
HDP 140 2	**22.2**	68	78950	582	*	290	342	278	322	457		288	297	391	551	
HDP 140 2	**24.9**	60	82230	539	*	293	345	281	325	460		291	300	394	554	
HDP 140 3	**25.1**	60	75910	505	*	208	245	203	234	332	402	234	216	284	400	622
HDP 140 3	**27.7**	54	82930	499	*	210	247	205	236	334	404	236	218	286	402	624
HDP 140 3	**32.9**	46	84810	430	*	215	252	210	241	339	409	241	223	291	407	629
HDP 140 3	**36.4**	41	82330	377	*	216	253	211	242	340	410	242	224	292	408	—
HDP 140 3	**41.1**	36	84810	344	144	220	257	215	246	344	414	246	228	296	412	—
HDP 140 3	**45.5**	33	81890	300	144	220	257	215	246	344	—	246	228	296	412	—
HDP 140 3	**50.7**	29.6	82170	270	147	223	260	218	249	347	—	249	231	299	—	—
HDP 140 3	**56.2**	26.7	81510	242	148	224	261	219	250	—	—	250	232	300	—	—
HDP 140 3	**65.1**	23.1	84810	218	161	237	—	232	—	—	—	263	245	—	—	—
HDP 140 3	**72.0**	20.8	81100	188	161	237	—	232	—	—	—	263	245	—	—	—
HDP 140 3	**81.3**	18.4	84810	174	163	239	—	234	—	—	—	265	247	—	—	—
HDP 140 3	**90.0**	16.7	82200	152	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**100.3**	15.0	82170	137	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**111.0**	13.5	84850	128	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**124.7**	12.0	78870	106	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**141.6**	10.6	78480	94	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**160.0**	9.4	84820	90	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**177.0**	8.5	87060	84	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**197.3**	7.6	81580	70	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**225.0**	6.7	87060	66	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**250.8**	6.0	81230	55	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**277.5**	5.4	87060	53	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**315.9**	4.7	84820	46	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**349.6**	4.3	87060	42	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**401.6**	3.7	84820	36	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**444.4**	3.4	87060	33	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**495.3**	3.0	82170	28	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

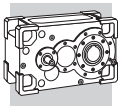


HDP 140 — n_1 = 1200 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 20°C											
					P_T	$P_{TFANL\,/\,R}$	P_{TFANLR}	P_{TMCRA5}	P_{TMCRA9}	$P_{TMCRA21}$	$P_{TMCRA34}$	P_{TSR}	P_{TMCRW5}	P_{TMCRW9}	$P_{TMCRW21}$	$P_{TMCRW34}$
		[min^{-1}]	[Nm]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
HDP 140 2	**8.4**	144	59560	932	*	*	401	379	457	700		*	*	414	574	
HDP 140 2	**9.3**	130	65910	932	*	*	406	384	462	705		*	*	419	579	
HDP 140 2	**9.9**	121	62930	831	*	359	422	400	478	721		*	341	435	595	
HDP 140 2	**11.0**	109	69630	831	*	363	426	404	482	725		336	345	439	599	
HDP 140 2	**13.0**	92	71380	718	*	384	447	425	503	746		357	366	460	620	
HDP 140 2	**14.4**	83	78980	718	*	387	450	428	506	749	⛔	360	369	463	623	⛔
HDP 140 2	**16.3**	74	81170	653	266	400	463	441	519	762		373	382	476	636	
HDP 140 2	**18.0**	67	83440	606	268	402	465	443	521	764		375	384	478	638	
HDP 140 2	**20.1**	60	76290	498	277	411	474	452	530	—		384	393	487	647	
HDP 140 2	**22.2**	54	82930	489	278	412	475	453	531	—		385	394	488	648	
HDP 140 2	**24.9**	48	82300	432	280	414	477	455	—	—		387	396	490	—	
HDP 140 3	**25.1**	48	77440	412	210	304	349	337	394	570	—	312	294	362	478	—
HDP 140 3	**27.7**	43	82440	397	211	305	350	338	395	571	—	313	295	363	479	—
HDP 140 3	**32.9**	36	84810	344	215	309	354	342	399	—	—	317	299	367	—	—
HDP 140 3	**36.4**	33	81890	300	216	310	—	343	—	—	—	318	300	368	—	—
HDP 140 3	**41.1**	29.2	84810	275	219	313	—	346	—	—	—	321	303	—	—	—
HDP 140 3	**45.5**	26.4	81480	239	219	313	—	346	—	—	—	321	303	—	—	—
HDP 140 3	**50.7**	23.6	82170	216	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**56.2**	21.4	81140	193	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**65.1**	18.4	84810	174	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**72.0**	16.7	82200	152	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**81.3**	14.8	84810	139	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**90.0**	13.3	85020	126	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**100.3**	12.0	82170	109	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**111.0**	10.8	87060	105	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**124.7**	9.6	78870	84	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**141.6**	8.5	84370	81	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**160.0**	7.5	84820	72	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**177.0**	6.8	87060	67	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**197.3**	6.1	81250	56	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**225.0**	5.3	87060	53	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**250.8**	4.8	80930	44	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**277.5**	4.3	87060	43	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**315.9**	3.8	84820	37	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**349.6**	3.4	87060	34	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**401.6**	3.0	84820	29	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**444.4**	2.7	87060	27	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**495.3**	2.4	82170	23	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary



HDP 140 — n_1 = 1200 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 40°C											
					P_T	$P_{TFANL\ /\ R}$	P_{TFANLR}	P_{TMCRA5}	P_{TMCRA9}	$P_{TMCRA21}$	$P_{TMCRA34}$	P_{TSR}	P_{TMCRW5}	P_{TMCRW9}	$P_{TMCRW21}$	$P_{TMCRW34}$
		[min^{-1}]	[Nm]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
HDP 140 2	**8.4**	144	59560	932	*	*	*	*	*	394		*	*	*	488	
HDP 140 2	**9.3**	130	65910	932	*	*	*	*	*	399		*	*	*	493	
HDP 140 2	**9.9**	121	62930	831	*	*	*	*	*	415		*	*	349	509	
HDP 140 2	**11.0**	109	69630	831	*	*	*	*	*	419		*	*	353	513	
HDP 140 2	**13.0**	92	71380	718	*	*	309	*	305	440		*	*	374	534	
HDP 140 2	**14.4**	83	78980	718	*	*	312	*	308	443	⊖	*	*	377	537	⊖
HDP 140 2	**16.3**	74	81170	653	*	278	325	277	321	456		287	296	390	550	
HDP 140 2	**18.0**	67	83440	606	*	280	327	279	323	458		289	298	392	552	
HDP 140 2	**20.1**	60	76290	498	*	289	336	288	332	467		298	307	401	561	
HDP 140 2	**22.2**	54	82930	489	*	291	338	290	334	469		300	309	403	563	
HDP 140 2	**24.9**	48	82300	432	194	292	339	291	335	470		301	310	404	564	
HDP 140 3	**25.1**	48	77440	412	*	212	245	214	245	343	413	245	227	295	411	633
HDP 140 3	**27.7**	43	82440	397	*	213	246	215	246	344	414	246	228	296	412	—
HDP 140 3	**32.9**	36	84810	344	148	217	250	219	250	348	—	250	232	300	416	—
HDP 140 3	**36.4**	33	81890	300	149	218	251	220	251	349	—	251	233	301	—	—
HDP 140 3	**41.1**	29.2	84810	275	152	221	254	223	254	352	—	254	236	304	—	—
HDP 140 3	**45.5**	26.4	81480	239	152	221	254	223	254	—	—	254	236	304	—	—
HDP 140 3	**50.7**	23.6	82170	216	154	223	—	225	—	—	—	256	238	—	—	—
HDP 140 3	**56.2**	21.4	81140	193	155	224	—	226	—	—	—	257	239	—	—	—
HDP 140 3	**65.1**	18.4	84810	174	165	234	—	236	—	—	—	267	249	—	—	—
HDP 140 3	**72.0**	16.7	82200	152	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**81.3**	14.8	84810	139	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**90.0**	13.3	85020	126	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**100.3**	12.0	82170	109	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**111.0**	10.8	87060	105	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**124.7**	9.6	78870	84	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**141.6**	8.5	84370	81	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**160.0**	7.5	84820	72	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**177.0**	6.8	87060	67	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**197.3**	6.1	81250	56	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**225.0**	5.3	87060	53	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**250.8**	4.8	80930	44	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**277.5**	4.3	87060	43	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**315.9**	3.8	84820	37	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**349.6**	3.4	87060	34	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**401.6**	3.0	84820	29	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**444.4**	2.7	87060	27	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**495.3**	2.4	82170	23	—	—	—	—	—	—	—	—	—	—	—	—

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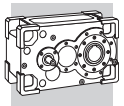
— Thermal verification not necessary



HDP 140

n_1 = 1000 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 20°C											
					P_T	$P_{TFANL\,/\,R}$	P_{TFANLR}	P_{TMCRA5}	P_{TMCRA9}	$P_{TMCRA21}$	$P_{TMCRA34}$	P_{TSR}	P_{TMCRW5}	P_{TMCRW9}	$P_{TMCRW21}$	$P_{TMCRW34}$
		[min^{-1}]	[Nm]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
HDP 140 2	**8.4**	120	62910	821	*	330	380	401	479	722		333	342	436	596	
HDP 140 2	**9.3**	108	69620	821	*	334	384	405	483	726		337	346	440	600	
HDP 140 2	**9.9**	101	66470	731	*	347	397	418	496	739		350	359	453	613	
HDP 140 2	**11.0**	91	73550	731	*	350	400	421	499	742		353	362	456	616	
HDP 140 2	**13.0**	77	75390	632	263	367	417	438	516	759		370	379	473	633	
HDP 140 2	**14.4**	69	83420	632	266	370	420	441	519	762	⛔	373	382	476	636	⛔
HDP 140 2	**16.3**	61	85730	575	276	380	430	451	529	772		383	392	486	646	
HDP 140 2	**18.0**	56	83000	503	278	382	432	453	531	—		385	394	488	648	
HDP 140 2	**20.1**	50	80570	438	285	389	439	460	—	—		392	401	495	—	
HDP 140 2	**22.2**	45	82520	405	286	390	440	461	—	—		393	402	496	—	
HDP 140 2	**24.9**	40	82350	360	288	392	—	463	—	—		395	404	—	—	
HDP 140 3	**25.1**	40	77440	344	217	290	325	344	—	—	—	319	301	369	—	—
HDP 140 3	**27.7**	36	82060	329	218	291	326	345	—	—	—	320	302	370	—	—
HDP 140 3	**32.9**	30	84810	287	221	294	—	348	—	—	—	323	305	—	—	—
HDP 140 3	**36.4**	27.5	81560	249	222	295	—	349	—	—	—	324	306	—	—	—
HDP 140 3	**41.1**	24.3	84810	229	224	297	—	351	—	—	—	326	308	—	—	—
HDP 140 3	**45.5**	22.0	81180	198	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**50.7**	19.7	82170	180	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**56.2**	17.8	81390	161	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**65.1**	15.4	84810	145	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**72.0**	13.9	84490	131	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**81.3**	12.3	84810	116	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**90.0**	11.1	87060	108	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**100.3**	10.0	82030	91	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**111.0**	9.0	87060	87	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**124.7**	8.0	78870	70	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**141.6**	7.1	87060	70	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**160.0**	6.3	84820	60	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**177.0**	5.6	87060	56	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**197.3**	5.1	81010	47	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**225.0**	4.4	87060	44	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**250.8**	4.0	81280	37	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**277.5**	3.6	87060	36	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**315.9**	3.2	84820	30	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**349.6**	2.9	87060	28	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**401.6**	2.5	84820	24	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**444.4**	2.3	87060	22	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**495.3**	2.0	82170	18.8	—	—	—	—	—	—	—	—	—	—	—	—

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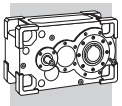
— Thermal verification not necessary



HDP 140 — n_1 = 1000 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 40°C											
					P_T	$P_{TFANL\ /\ R}$	P_{TFANLR}	P_{TMCRA5}	P_{TMCRA9}	$P_{TMCRA21}$	$P_{TMCRA34}$	P_{TSR}	P_{TMCRW5}	P_{TMCRW9}	$P_{TMCRW21}$	$P_{TMCRW34}$
		[min^{-1}]	[Nm]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
HDP 140 2	**8.4**	120	62910	821	*	*	*	*	*	416		*	*	350	510	
HDP 140 2	**9.3**	108	69620	821	*	*	*	*	*	420		*	*	354	514	
HDP 140 2	**9.9**	101	66470	731	*	*	*	*	298	433		*	*	367	527	
HDP 140 2	**11.0**	91	73550	731	*	*	*	*	301	436		*	*	370	530	
HDP 140 2	**13.0**	77	75390	632	*	254	291	275	319	454		285	294	388	548	
HDP 140 2	**14.4**	69	83420	632	*	256	293	277	321	456	⊖	287	296	390	550	⊖
HDP 140 2	**16.3**	61	85730	575	*	266	303	287	331	466		297	306	400	560	
HDP 140 2	**18.0**	56	83000	503	*	268	305	289	333	468		299	308	402	562	
HDP 140 2	**20.1**	50	80570	438	199	275	312	296	340	475		306	315	409	569	
HDP 140 2	**22.2**	45	82520	405	200	276	313	297	341	476		307	316	410	—	
HDP 140 2	**24.9**	40	82350	360	202	278	315	299	343	478		309	318	412	—	
HDP 140 3	**25.1**	40	77440	344	150	203	229	221	252	350	—	252	234	302	418	—
HDP 140 3	**27.7**	36	82060	329	151	204	230	222	253	351	—	253	235	303	419	—
HDP 140 3	**32.9**	30	84810	287	155	208	234	226	257	355	—	257	239	307	—	—
HDP 140 3	**36.4**	27.5	81560	249	155	208	234	226	257	—	—	257	239	307	—	—
HDP 140 3	**41.1**	24.3	84810	229	157	210	236	228	259	—	—	259	241	—	—	—
HDP 140 3	**45.5**	22.0	81180	198	158	211	—	229	—	—	—	260	242	—	—	—
HDP 140 3	**50.7**	19.7	82170	180	159	212	—	230	—	—	—	261	243	—	—	—
HDP 140 3	**56.2**	17.8	81390	161	160	213	—	231	—	—	—	262	244	—	—	—
HDP 140 3	**65.1**	15.4	84810	145	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**72.0**	13.9	84490	131	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**81.3**	12.3	84810	116	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**90.0**	11.1	87060	108	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**100.3**	10.0	82030	91	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**111.0**	9.0	87060	87	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 3	**124.7**	8.0	78870	70	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**141.6**	7.1	87060	70	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**160.0**	6.3	84820	60	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**177.0**	5.6	87060	56	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**197.3**	5.1	81010	47	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**225.0**	4.4	87060	44	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**250.8**	4.0	81280	37	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**277.5**	3.6	87060	36	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**315.9**	3.2	84820	30	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**349.6**	2.9	87060	28	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**401.6**	2.5	84820	24	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**444.4**	2.3	87060	22	—	—	—	—	—	—	—	—	—	—	—	—
HDP 140 4	**495.3**	2.0	82170	18.8	—	—	—	—	—	—	—	—	—	—	—	—

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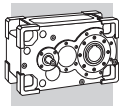
— Thermal verification not necessary

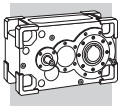


HDP 150 — n_1 = 1800 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 20°C												
		[min^{-1}]	[Nm]	[kW]	P_T [kW]	$P_{TFANL\,/\,R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	$P_{TMCRA21}$ [kW]	$P_{TMCRA34}$ [kW]	$P_{TMCRA51}$ [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]	$P_{TMCRW21}$ [kW]	$P_{TMCRW34}$ [kW]	$P_{TMCRW51}$ [kW]
HDP 150 2	**7.9**	228	74450	1848	*	*	*	*	*	*	794		*	*	*	799	
HDP 150 2	**9.3**	194	87230	1848	*	*	*	*	*	*	813		*	*	*	818	
HDP 150 2	**10.1**	178	92670	1803	*	*	*	*	*	*	821		*	*	*	826	
HDP 150 2	**11.1**	163	91890	1630	*	*	*	*	*	716	891		*	*	*	896	
HDP 150 2	**13.0**	139	100380	1520	*	*	*	*	*	728	903	●	*	*	*	908	●
HDP 150 2	**14.1**	128	102730	1428	*	*	*	*	*	733	908		*	*	607	913	
HDP 150 2	**15.4**	117	97390	1244	*	*	590	*	535	778	953		*	*	652	958	
HDP 150 2	**18.0**	100	111710	1217	*	505	598	*	543	786	961		*	500	660	966	
HDP 150 2	**19.6**	92	110820	1109	*	508	601	468	546	789	964		*	503	663	969	
HDP 150 3	**21.5**	84	87340	813	*	353	418	333	390	566	692	756	*	358	474	696	906
HDP 150 3	**25.2**	71	102350	813	*	357	422	337	394	570	696	760	*	362	478	700	910
HDP 150 3	**27.4**	66	109620	800	*	359	424	339	396	572	698	762	*	364	480	702	912
HDP 150 3	**29.9**	60	117200	785	*	371	436	351	408	584	710	774	*	376	492	714	924
HDP 150 3	**35.0**	51	112560	644	*	373	438	353	410	586	712	—	310	378	494	716	—
HDP 150 3	**38.1**	47	108590	570	*	375	440	355	412	588	—	—	312	380	496	718	—
HDP 150 3	**43.5**	41	117200	540	265	412	477	392	449	625	—	—	349	417	533	755	—
HDP 150 3	**50.9**	35	111470	438	267	414	479	394	451	—	—	—	351	419	535	—	—
HDP 150 3	**55.5**	32	107560	388	267	414	—	394	—	—	—	—	351	419	—	—	—
HDP 150 3	**60.4**	29.8	117200	389	273	420	—	400	—	—	—	—	357	425	—	—	—
HDP 150 3	**70.8**	25.4	110640	313	274	421	—	401	—	—	—	—	358	—	—	—	—
HDP 150 3	**77.0**	23.4	106780	278	274	421	—	401	—	—	—	—	358	—	—	—	—
HDP 150 4	**89.0**	20.2	110220	253	191	303	—	291	—	—	—	—	257	—	—	—	—
HDP 150 4	**104.3**	17.3	111430	218	191	303	—	291	—	—	—	—	257	—	—	—	—
HDP 150 4	**113.6**	15.9	109050	196	192	304	—	292	—	—	—	—	258	—	—	—	—
HDP 150 4	**123.6**	14.6	117200	194	193	305	—	293	—	—	—	—	259	—	—	—	—
HDP 150 4	**144.9**	12.4	117090	165	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**157.8**	11.4	114590	148	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**170.9**	10.5	114510	137	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**200.3**	9.0	117090	119	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**218.1**	8.3	114780	108	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**237.5**	7.6	117200	101	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**278.3**	6.5	117090	86	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**303.1**	5.9	114780	77	—	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

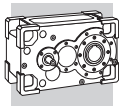


HDP 150 — n_1 = 1800 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 40°C												
					P_T	$P_{TFANL\,/\,R}$	P_{TFANLR}	P_{TMCRA5}	P_{TMCRA9}	$P_{TMCRA21}$	$P_{TMCRA34}$	$P_{TMCRA51}$	P_{TMCRW5}	P_{TMCRW9}	$P_{TMCRW21}$	$P_{TMCRW34}$	$P_{TMCRW51}$
		[min^{-1}]	[Nm]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
HDP 150 2	**7.9**	228	74450	1848	*	*	*	*	*	*	*	◐	*	*	*	*	◐
HDP 150 2	**9.3**	194	87230	1848	*	*	*	*	*	*	*		*	*	*	*	
HDP 150 2	**10.1**	178	92670	1803	*	*	*	*	*	*	*		*	*	*	*	
HDP 150 2	**11.1**	163	91890	1630	*	*	*	*	*	*	*		*	*	*	785	
HDP 150 2	**13.0**	139	100380	1520	*	*	*	*	*	*	*		*	*	*	797	
HDP 150 2	**14.1**	128	102730	1428	*	*	*	*	*	*	*		*	*	*	803	
HDP 150 2	**15.4**	117	97390	1244	*	*	*	*	*	*	544		*	*	541	847	
HDP 150 2	**18.0**	100	111710	1217	*	*	*	*	*	*	552		*	*	549	855	
HDP 150 2	**19.6**	92	110820	1109	*	*	*	*	*	459	556		*	*	553	859	
HDP 150 3	**21.5**	84	87340	813	*	*	*	*	*	*	391	421	*	*	389	611	821
HDP 150 3	**25.2**	71	102350	813	*	*	*	*	*	*	395	425	*	*	393	615	825
HDP 150 3	**27.4**	66	109620	800	*	*	*	*	*	327	397	427	*	*	395	617	827
HDP 150 3	**29.9**	60	117200	785	*	*	*	*	*	339	409	439	*	*	407	629	839
HDP 150 3	**35.0**	51	112560	644	*	*	297	*	*	342	412	442	*	294	410	632	842
HDP 150 3	**38.1**	47	108590	570	*	251	298	*	245	343	413	443	*	295	411	633	—
HDP 150 3	**43.5**	41	117200	540	*	288	335	251	282	380	450	480	264	332	448	670	—
HDP 150 3	**50.9**	35	111470	438	182	290	337	253	284	382	452	—	266	334	450	—	—
HDP 150 3	**55.5**	32	107560	388	183	291	338	254	285	383	453	—	267	335	451	—	—
HDP 150 3	**60.4**	29.8	117200	389	188	296	343	259	290	388	458	—	272	340	456	—	—
HDP 150 3	**70.8**	25.4	110640	313	189	297	344	260	291	389	—	—	273	341	—	—	—
HDP 150 3	**77.0**	23.4	106780	278	190	298	—	261	292	—	—	—	274	342	—	—	—
HDP 150 4	**89.0**	20.2	110220	253	126	208	244	181	206	283	—	—	192	245	336	—	—
HDP 150 4	**104.3**	17.3	111430	218	127	209	245	182	207	284	—	—	193	246	—	—	—
HDP 150 4	**113.6**	15.9	109050	196	127	209	—	182	207	—	—	—	193	246	—	—	—
HDP 150 4	**123.6**	14.6	117200	194	129	211	—	184	209	—	—	—	195	—	—	—	—
HDP 150 4	**144.9**	12.4	117090	165	129	211	—	184	—	—	—	—	195	—	—	—	—
HDP 150 4	**157.8**	11.4	114590	148	129	211	—	184	—	—	—	—	195	—	—	—	—
HDP 150 4	**170.9**	10.5	114510	137	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**200.3**	9.0	117090	119	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**218.1**	8.3	114780	108	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**237.5**	7.6	117200	101	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**278.3**	6.5	117090	86	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**303.1**	5.9	114780	77	—	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

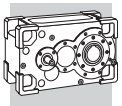


HDP 150 — n_1 = 1500 min^{-1}

					t_a = 20°C												
	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	P_T [kW]	$P_{TFANL\,/\,R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	$P_{TMCRA21}$ [kW]	$P_{TMCRA34}$ [kW]	$P_{TMCRA51}$ [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]	$P_{TMCRW21}$ [kW]	$P_{TMCRW34}$ [kW]	$P_{TMCRW51}$ [kW]
HDP 150 2	**7.9**	190	78630	1627	*	*	*	*	*	685	860	◐	*	*	*	865	◐
HDP 150 2	**9.3**	162	92140	1627	*	*	*	*	*	700	875		*	*	*	880	
HDP 150 2	**10.1**	149	97880	1587	*	*	*	*	*	706	881		*	*	*	886	
HDP 150 2	**11.1**	136	97060	1435	*	*	*	*	*	760	935		*	*	634	940	
HDP 150 2	**13.0**	116	106020	1338	*	*	541	*	*	769	944		*	*	643	949	
HDP 150 2	**14.1**	106	108500	1257	*	*	545	*	530	773	948		*	*	647	953	
HDP 150 2	**15.4**	98	102870	1095	*	498	579	486	564	807	982		*	521	681	987	
HDP 150 2	**18.0**	83	114210	1037	*	504	585	492	570	813	988		433	527	687	993	
HDP 150 2	**19.6**	76	110150	919	*	507	588	495	573	816	991		436	530	690	996	
HDP 150 3	**21.5**	70	92560	718	*	359	415	358	415	591	717	781	315	383	499	721	—
HDP 150 3	**25.2**	60	108460	718	*	362	418	361	418	594	720	—	318	386	502	724	—
HDP 150 3	**27.4**	55	109030	663	*	363	419	362	419	595	721	—	319	387	503	725	—
HDP 150 3	**29.9**	50	117200	654	*	373	429	372	429	605	731	—	329	397	513	735	—
HDP 150 3	**35.0**	43	112010	534	247	375	431	374	431	607	—	—	331	399	515	737	—
HDP 150 3	**38.1**	39	108070	473	247	375	431	374	431	607	—	—	331	399	515	—	—
HDP 150 3	**43.5**	35	117200	450	276	404	460	403	460	—	—	—	360	428	544	—	—
HDP 150 3	**50.9**	29.5	111000	364	278	406	—	405	—	—	—	—	362	430	—	—	—
HDP 150 3	**55.5**	27.0	107110	322	278	406	—	405	—	—	—	—	362	—	—	—	—
HDP 150 3	**60.4**	24.8	117200	324	282	410	—	409	—	—	—	—	366	—	—	—	—
HDP 150 3	**70.8**	21.2	110230	260	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 3	**77.0**	19.5	106390	230	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**89.0**	16.9	116800	224	202	299	—	302	—	—	—	—	268	—	—	—	—
HDP 150 4	**104.3**	14.4	116060	190	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**113.6**	13.2	112070	168	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**123.6**	12.1	117200	161	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**144.9**	10.4	117090	138	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**157.8**	9.5	114780	124	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**170.9**	8.8	116800	116	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**200.3**	7.5	117090	100	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**218.1**	6.9	114780	90	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**237.5**	6.3	117200	84	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**278.3**	5.4	117090	72	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**303.1**	4.9	114780	64	—	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary



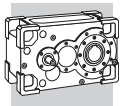
HDP 150

n_1 = 1500 min^{-1}

					t_a = 40°C												
	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	P_T [kW]	$P_{TFANL\ /\ R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	$P_{TMCRA21}$ [kW]	$P_{TMCRA34}$ [kW]	$P_{TMCRA51}$ [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]	$P_{TMCRW21}$ [kW]	$P_{TMCRW34}$ [kW]	$P_{TMCRW51}$ [kW]
HDP 150 2	**7.9**	190	78630	1627	*	*	*	*	*	*	*		*	*	*	755	
HDP 150 2	**9.3**	162	92140	1627	*	*	*	*	*	*	*		*	*	*	769	
HDP 150 2	**10.1**	149	97880	1587	*	*	*	*	*	*	*		*	*	*	775	
HDP 150 2	**11.1**	136	97060	1435	*	*	*	*	*	*	*		*	*	*	829	
HDP 150 2	**13.0**	116	106020	1338	*	*	*	*	*	*	535	◐	*	*	*	838	◐
HDP 150 2	**14.1**	106	108500	1257	*	*	*	*	*	*	539		*	*	536	842	
HDP 150 2	**15.4**	98	102870	1095	*	*	*	*	*	477	574		*	*	571	877	
HDP 150 2	**18.0**	83	114210	1037	*	*	*	*	*	483	580		*	417	577	883	
HDP 150 2	**19.6**	76	110150	919	*	*	406	*	*	485	582		*	419	579	885	
HDP 150 3	**21.5**	70	92560	718	*	*	*	*	*	346	416	446	*	298	414	636	846
HDP 150 3	**25.2**	60	108460	718	*	*	*	*	*	349	419	449	*	301	417	639	849
HDP 150 3	**27.4**	55	109030	663	*	*	285	*	*	350	420	450	*	302	418	640	850
HDP 150 3	**29.9**	50	117200	654	*	*	295	*	262	360	430	460	*	312	428	650	860
HDP 150 3	**35.0**	43	112010	534	*	256	297	233	264	362	432	462	246	314	430	652	—
HDP 150 3	**38.1**	39	108070	473	*	257	298	234	265	363	433	463	247	315	431	653	—
HDP 150 3	**43.5**	35	117200	450	191	285	326	262	293	391	461	—	275	343	459	—	—
HDP 150 3	**50.9**	29.5	111000	364	193	287	328	264	295	393	—	—	277	345	461	—	—
HDP 150 3	**55.5**	27.0	107110	322	193	287	328	264	295	393	—	—	277	345	—	—	—
HDP 150 3	**60.4**	24.8	117200	324	197	291	332	268	299	397	—	—	281	349	—	—	—
HDP 150 3	**70.8**	21.2	110230	260	198	292	—	269	—	—	—	—	282	—	—	—	—
HDP 150 3	**77.0**	19.5	106390	230	199	293	—	270	—	—	—	—	283	—	—	—	—
HDP 150 4	**89.0**	16.9	116800	224	137	208	240	192	217	294	—	—	203	256	—	—	—
HDP 150 4	**104.3**	14.4	116060	190	138	209	—	193	—	—	—	—	204	—	—	—	—
HDP 150 4	**113.6**	13.2	112070	168	138	209	—	193	—	—	—	—	204	—	—	—	—
HDP 150 4	**123.6**	12.1	117200	161	139	210	—	194	—	—	—	—	205	—	—	—	—
HDP 150 4	**144.9**	10.4	117090	138	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**157.8**	9.5	114780	124	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**170.9**	8.8	116800	116	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**200.3**	7.5	117090	100	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**218.1**	6.9	114780	90	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**237.5**	6.3	117200	84	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**278.3**	5.4	117090	72	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**303.1**	4.9	114780	64	—	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

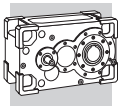


HDP 150 — n_1 = 1200 min^{-1}

					t_a = 20°C												
	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	P_T [kW]	$P_{TFANL\,/\,R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	$P_{TMCRA21}$ [kW]	$P_{TMCRA34}$ [kW]	$P_{TMCRA51}$ [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]	$P_{TMCRW21}$ [kW]	$P_{TMCRW34}$ [kW]	$P_{TMCRW51}$ [kW]
HDP 150 2	**7.9**	152	84080	1392	*	*	*	*	*	735	910	◐	*	*	609	915	◐
HDP 150 2	**9.3**	130	98520	1392	*	*	*	*	*	746	921		*	*	620	926	
HDP 150 2	**10.1**	119	104660	1357	*	*	*	*	*	751	926		*	*	625	931	
HDP 150 2	**11.1**	108	103780	1227	*	*	538	*	550	793	968		*	507	667	973	
HDP 150 2	**13.0**	93	113360	1144	*	472	545	479	557	800	975		*	514	674	980	
HDP 150 2	**14.1**	85	110530	1024	*	475	548	482	560	803	978		423	517	677	983	
HDP 150 2	**15.4**	78	109990	936	*	501	574	508	586	829	1004		449	543	703	1009	
HDP 150 2	**18.0**	67	113410	824	338	506	579	513	591	834	—		454	548	708	1014	
HDP 150 2	**19.6**	61	109400	730	340	508	581	515	593	836	—		456	550	710	1016	
HDP 150 3	**21.5**	56	98970	614	250	365	416	377	434	610	736	—	334	402	518	740	—
HDP 150 3	**25.2**	48	112320	595	252	367	418	379	436	612	—	—	336	404	520	742	—
HDP 150 3	**27.4**	44	108370	527	253	368	419	380	437	613	—	—	337	405	521	743	—
HDP 150 3	**29.9**	40	117200	524	260	375	426	387	444	620	—	—	344	412	528	—	—
HDP 150 3	**35.0**	34	111390	425	262	377	428	389	446	—	—	—	346	414	530	—	—
HDP 150 3	**38.1**	31	107480	376	262	377	—	389	—	—	—	—	346	414	—	—	—
HDP 150 3	**43.5**	27.6	117200	360	285	400	—	412	—	—	—	—	369	—	—	—	—
HDP 150 3	**50.9**	23.6	110470	290	286	401	—	413	—	—	—	—	370	—	—	—	—
HDP 150 3	**55.5**	21.6	106610	257	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 3	**60.4**	19.9	117200	259	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 3	**70.8**	17.0	113250	214	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 3	**77.0**	15.6	109330	189	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**89.0**	13.5	116800	179	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**104.3**	11.5	117090	153	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**113.6**	10.6	114780	138	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**123.6**	9.7	117200	129	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**144.9**	8.3	117090	110	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**157.8**	7.6	114780	99	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**170.9**	7.0	116800	93	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**200.3**	6.0	117090	80	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**218.1**	5.5	114780	72	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**237.5**	5.1	117200	67	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**278.3**	4.3	117090	57	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**303.1**	4.0	114780	52	—	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary



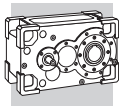
HDP 150

n_1 = 1200 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 40°C												
					P_T	$P_{TFANL\ /\ R}$	P_{TFANLR}	P_{TMCRA5}	P_{TMCRA9}	$P_{TMCRA21}$	$P_{TMCRA34}$	$P_{TMCRA51}$	P_{TMCRW5}	P_{TMCRW9}	$P_{TMCRW21}$	$P_{TMCRW34}$	$P_{TMCRW51}$
		[min^{-1}]	[Nm]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
HDP 150 2	**7.9**	152	84080	1392	*	*	*	*	*	*	*		*	*	*	804	
HDP 150 2	**9.3**	130	98520	1392	*	*	*	*	*	*	*		*	*	*	815	
HDP 150 2	**10.1**	119	104660	1357	*	*	*	*	*	*	*		*	*	*	820	
HDP 150 2	**11.1**	108	103780	1227	*	*	*	*	*	*	559		*	*	556	862	
HDP 150 2	**13.0**	93	113360	1144	*	*	*	*	*	469	566	◐	*	*	563	869	◐
HDP 150 2	**14.1**	85	110530	1024	*	*	*	*	*	472	569		*	*	566	872	
HDP 150 2	**15.4**	78	109990	936	*	*	400	*	*	499	596		*	433	593	899	
HDP 150 2	**18.0**	67	113410	824	*	350	404	*	368	503	600		343	437	597	903	
HDP 150 2	**19.6**	61	109400	730	*	353	407	327	371	506	603		346	440	600	906	
HDP 150 3	**21.5**	56	98970	614	*	250	286	*	267	365	435	465	249	317	433	655	—
HDP 150 3	**25.2**	48	112320	595	*	252	288	238	269	367	437	467	251	319	435	657	—
HDP 150 3	**27.4**	44	108370	527	*	253	289	239	270	368	438	468	252	320	436	658	—
HDP 150 3	**29.9**	40	117200	524	*	260	296	246	277	375	445	475	259	327	443	665	—
HDP 150 3	**35.0**	34	111390	425	177	262	298	248	279	377	447	—	261	329	445	—	—
HDP 150 3	**38.1**	31	107480	376	178	263	299	249	280	378	—	—	262	330	446	—	—
HDP 150 3	**43.5**	27.6	117200	360	200	285	321	271	302	400	—	—	284	352	468	—	—
HDP 150 3	**50.9**	23.6	110470	290	201	286	322	272	303	—	—	—	285	353	—	—	—
HDP 150 3	**55.5**	21.6	106610	257	201	286	—	272	—	—	—	—	285	—	—	—	—
HDP 150 3	**60.4**	19.9	117200	259	205	290	—	276	—	—	—	—	289	—	—	—	—
HDP 150 3	**70.8**	17.0	113250	214	205	290	—	276	—	—	—	—	289	—	—	—	—
HDP 150 3	**77.0**	15.6	109330	189	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**89.0**	13.5	116800	179	146	210	—	201	—	—	—	—	212	—	—	—	—
HDP 150 4	**104.3**	11.5	117090	153	146	210	—	201	—	—	—	—	212	—	—	—	—
HDP 150 4	**113.6**	10.6	114780	138	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**123.6**	9.7	117200	129	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**144.9**	8.3	117090	110	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**157.8**	7.6	114780	99	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**170.9**	7.0	116800	93	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**200.3**	6.0	117090	80	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**218.1**	5.5	114780	72	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**237.5**	5.1	117200	67	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**278.3**	4.3	117090	57	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**303.1**	4.0	114780	52	—	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary



HDP 150 — n_1 = 1000 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 20°C												
					P_T	$P_{TFANL\,/\,R}$	P_{TFANLR}	P_{TMCRA5}	P_{TMCRA9}	$P_{TMCRA21}$	$P_{TMCRA34}$	$P_{TMCRA51}$	P_{TMCRW5}	P_{TMCRW9}	$P_{TMCRW21}$	$P_{TMCRW34}$	$P_{TMCRW51}$
		[min^{-1}]	[Nm]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
HDP 150 2	**7.9**	126	88800	1225	*	*	*	*	525	768	943	◐	*	*	642	948	◐
HDP 150 2	**9.3**	108	104050	1225	*	*	*	*	534	777	952		*	491	651	957	
HDP 150 2	**10.1**	99	110540	1195	*	*	*	*	538	781	956		*	495	655	961	
HDP 150 2	**11.1**	90	109610	1080	*	449	506	493	571	814	989		434	528	688	994	
HDP 150 2	**13.0**	77	113930	958	*	455	512	499	577	820	995		440	534	694	1000	
HDP 150 2	**14.1**	71	109890	849	*	458	515	502	580	823	998		443	537	697	1003	
HDP 150 2	**15.4**	65	116170	824	348	479	536	523	601	844	—		464	558	718	1024	
HDP 150 2	**18.0**	56	112810	683	352	483	540	527	605	848	—		468	562	722	—	
HDP 150 2	**19.6**	51	108820	605	354	485	542	529	607	—	—		470	564	724	—	
HDP 150 3	**21.5**	46	104540	541	262	352	391	389	446	622	—	—	346	414	530	752	—
HDP 150 3	**25.2**	40	111790	493	264	354	393	391	448	624	—	—	348	416	532	—	—
HDP 150 3	**27.4**	36	107860	437	265	355	394	392	449	—	—	—	349	417	533	—	—
HDP 150 3	**29.9**	33	117200	436	271	361	400	398	455	—	—	—	355	423	539	—	—
HDP 150 3	**35.0**	28.6	110920	352	272	362	—	399	—	—	—	—	356	—	—	—	—
HDP 150 3	**38.1**	26.2	107040	312	272	362	—	399	—	—	—	—	356	—	—	—	—
HDP 150 3	**43.5**	23.0	117200	300	290	380	—	417	—	—	—	—	374	—	—	—	—
HDP 150 3	**50.9**	19.6	110840	242	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 3	**55.5**	18.0	106990	215	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 3	**60.4**	16.6	117200	216	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 3	**70.8**	14.1	116370	183	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 3	**77.0**	13.0	112360	162	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**89.0**	11.2	116800	149	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**104.3**	9.6	117090	127	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**113.6**	8.8	114780	115	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**123.6**	8.1	117200	108	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**144.9**	6.9	117090	92	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**157.8**	6.3	114780	83	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**170.9**	5.8	116800	78	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**200.3**	5.0	117090	66	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**218.1**	4.6	114780	60	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**237.5**	4.2	117200	56	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**278.3**	3.6	117090	48	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**303.1**	3.3	114780	43	—	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

HDP 150

n_1 = 1000 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 40°C												
					P_T [kW]	$P_{TFANL\,/\,R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	$P_{TMCRA21}$ [kW]	$P_{TMCRA34}$ [kW]	$P_{TMCRA51}$ [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]	$P_{TMCRW21}$ [kW]	$P_{TMCRW34}$ [kW]	$P_{TMCRW51}$ [kW]
HDP 150 2	**7.9**	126	88800	1225	*	*	*	*	*	*	534	◐	*	*	531	837	◐
HDP 150 2	**9.3**	108	104050	1225	*	*	*	*	*	*	543		*	*	540	846	
HDP 150 2	**10.1**	99	110540	1195	*	*	*	*	*	*	547		*	*	544	850	
HDP 150 2	**11.1**	90	109610	1080	*	*	*	*	*	484	581		*	*	578	884	
HDP 150 2	**13.0**	77	113930	958	*	*	*	*	*	489	586		*	423	583	889	
HDP 150 2	**14.1**	71	109890	849	*	*	354	*	357	492	589		*	426	586	892	
HDP 150 2	**15.4**	65	116170	824	*	333	375	334	378	513	610		353	447	607	913	
HDP 150 2	**18.0**	56	112810	683	*	337	379	338	382	517	614		357	451	611	917	
HDP 150 2	**19.6**	51	108820	605	243	339	381	340	384	519	616		359	453	613	—	
HDP 150 3	**21.5**	46	104540	541	*	243	271	248	279	377	447	477	261	329	445	667	—
HDP 150 3	**25.2**	40	111790	493	*	245	273	250	281	379	449	479	263	331	447	669	—
HDP 150 3	**27.4**	36	107860	437	180	246	274	251	282	380	450	—	264	332	448	—	—
HDP 150 3	**29.9**	33	117200	436	186	252	280	257	288	386	456	—	270	338	454	—	—
HDP 150 3	**35.0**	28.6	110920	352	187	253	281	258	289	387	—	—	271	339	455	—	—
HDP 150 3	**38.1**	26.2	107040	312	188	254	282	259	290	388	—	—	272	340	—	—	—
HDP 150 3	**43.5**	23.0	117200	300	206	272	300	277	308	—	—	—	290	358	—	—	—
HDP 150 3	**50.9**	19.6	110840	242	206	272	—	277	—	—	—	—	290	—	—	—	—
HDP 150 3	**55.5**	18.0	106990	215	207	273	—	278	—	—	—	—	291	—	—	—	—
HDP 150 3	**60.4**	16.6	117200	216	209	275	—	280	—	—	—	—	293	—	—	—	—
HDP 150 3	**70.8**	14.1	116370	183	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 3	**77.0**	13.0	112360	162	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**89.0**	11.2	116800	149	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**104.3**	9.6	117090	127	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**113.6**	8.8	114780	115	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**123.6**	8.1	117200	108	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**144.9**	6.9	117090	92	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**157.8**	6.3	114780	83	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**170.9**	5.8	116800	78	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**200.3**	5.0	117090	66	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**218.1**	4.6	114780	60	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**237.5**	4.2	117200	56	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**278.3**	3.6	117090	48	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 150 4	**303.1**	3.3	114780	43	—	—	—	—	—	—	—	—	—	—	—	—	—

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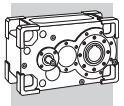
— Thermal verification not necessary

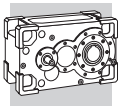


HDP 160 — n_1 = 1800 min^{-1}

					t_a = 20°C												
	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	P_T [kW]	$P_{TFANL\,/\,R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	$P_{TMCRA21}$ [kW]	$P_{TMCRA34}$ [kW]	$P_{TMCRA51}$ [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]	$P_{TMCRW21}$ [kW]	$P_{TMCRW34}$ [kW]	$P_{TMCRW51}$ [kW]
HDP 160 2	**9.0**	201	84540	1848	*	*	*	*	*	*	796		*	*	*	801	
HDP 160 2	**10.5**	172	98670	1848	*	*	*	*	*	*	818		*	*	*	823	
HDP 160 2	**11.4**	158	104630	1803	*	*	*	*	*	*	829		*	*	*	834	
HDP 160 2	**12.6**	143	104350	1630	*	*	*	*	*	727	902		*	*	*	907	
HDP 160 2	**14.7**	123	113510	1519	*	*	*	*	*	741	916	◐	*	*	615	921	◐
HDP 160 2	**15.9**	113	115960	1428	*	*	*	*	*	748	923		*	*	622	928	
HDP 160 2	**17.5**	103	110600	1244	*	513	606	*	551	794	969		*	508	668	974	
HDP 160 2	**20.4**	88	126330	1217	*	523	616	*	561	804	979		*	518	678	984	
HDP 160 2	**22.1**	81	128970	1143	*	527	620	487	565	808	983		*	522	682	988	
HDP 160 3	**24.4**	74	99160	813	*	366	431	346	403	579	705	769	*	371	487	709	919
HDP 160 3	**28.5**	63	115770	813	*	371	436	351	408	584	710	774	*	376	492	714	924
HDP 160 3	**31.0**	58	125840	813	*	373	438	353	410	586	712	776	*	378	494	716	926
HDP 160 3	**33.9**	53	134250	792	*	386	451	366	423	599	725	789	323	391	507	729	939
HDP 160 3	**39.6**	45	146300	740	*	388	453	368	425	601	727	791	325	393	509	731	941
HDP 160 3	**43.1**	42	139210	647	*	390	455	370	427	603	729	—	327	395	511	733	—
HDP 160 3	**49.4**	36	133700	543	281	428	493	408	465	641	—	—	365	433	549	—	—
HDP 160 3	**57.6**	31	145030	504	283	430	495	410	467	643	—	—	367	435	551	—	—
HDP 160 3	**62.6**	28.7	137880	441	284	431	496	411	468	—	—	—	368	436	552	—	—
HDP 160 3	**68.6**	26.3	143440	419	289	436	—	416	473	—	—	—	373	441	—	—	—
HDP 160 3	**80.0**	22.5	144680	362	290	437	—	417	—	—	—	—	374	—	—	—	—
HDP 160 3	**87.0**	20.7	136870	315	291	438	—	418	—	—	—	—	375	—	—	—	—
HDP 160 4	**101.1**	17.8	125180	253	204	316	—	304	—	—	—	—	270	—	—	—	—
HDP 160 4	**117.9**	15.3	146130	253	205	317	—	305	—	—	—	—	271	—	—	—	—
HDP 160 4	**128.2**	14.0	137000	218	205	317	—	305	—	—	—	—	271	—	—	—	—
HDP 160 4	**140.4**	12.8	142990	208	207	319	—	307	—	—	—	—	273	—	—	—	—
HDP 160 4	**163.9**	11.0	146300	182	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**178.1**	10.1	146860	168	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**194.1**	9.3	130070	137	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**226.6**	7.9	146300	132	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**246.3**	7.3	147070	122	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**269.7**	6.7	141000	107	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**314.8**	5.7	146300	95	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**342.2**	5.3	147070	88	—	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary



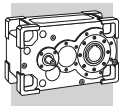
HDP 160

n_1 = 1800 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 40°C												
					P_T	$P_{TFANL\ /\ R}$	P_{TFANLR}	P_{TMCRA5}	P_{TMCRA9}	$P_{TMCRA21}$	$P_{TMCRA34}$	$P_{TMCRA51}$	P_{TMCRW5}	P_{TMCRW9}	$P_{TMCRW21}$	$P_{TMCRW34}$	$P_{TMCRW51}$
		[min^{-1}]	[Nm]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
HDP 160 2	**9.0**	201	84540	1848	*	*	*	*	*	*	*	●	*	*	*	*	●
HDP 160 2	**10.5**	172	98670	1848	*	*	*	*	*	*	*		*	*	*	*	
HDP 160 2	**11.4**	158	104630	1803	*	*	*	*	*	*	*		*	*	*	*	
HDP 160 2	**12.6**	143	104350	1630	*	*	*	*	*	*	*		*	*	*	789	
HDP 160 2	**14.7**	123	113510	1519	*	*	*	*	*	*	*		*	*	*	803	
HDP 160 2	**15.9**	113	115960	1428	*	*	*	*	*	*	*		*	*	*	810	
HDP 160 2	**17.5**	103	110600	1244	*	*	*	*	*	*	553		*	*	550	856	
HDP 160 2	**20.4**	88	126330	1217	*	*	*	*	*	*	563		*	*	560	866	
HDP 160 2	**22.1**	81	128970	1143	*	*	*	*	*	470	567		*	*	564	870	
HDP 160 3	**24.4**	74	99160	813	*	*	*	*	*	330	400	430	*	*	398	620	830
HDP 160 3	**28.5**	63	115770	813	*	*	*	*	*	334	404	434	*	*	402	624	834
HDP 160 3	**31.0**	58	125840	813	*	*	*	*	*	336	406	436	*	*	404	626	836
HDP 160 3	**33.9**	53	134250	792	*	*	*	*	*	349	419	449	*	*	417	639	849
HDP 160 3	**39.6**	45	146300	740	*	*	307	*	*	352	422	452	*	304	420	642	852
HDP 160 3	**43.1**	42	139210	647	*	261	308	*	*	353	423	453	*	305	421	643	853
HDP 160 3	**49.4**	36	133700	543	*	299	346	262	293	391	461	491	275	343	459	681	—
HDP 160 3	**57.6**	31	145030	504	*	301	348	264	295	393	463	493	277	345	461	683	—
HDP 160 3	**62.6**	28.7	137880	441	194	302	349	265	296	394	464	—	278	346	462	—	—
HDP 160 3	**68.6**	26.3	143440	419	199	307	354	270	301	399	469	—	283	351	467	—	—
HDP 160 3	**80.0**	22.5	144680	362	201	309	356	272	303	401	—	—	285	353	469	—	—
HDP 160 3	**87.0**	20.7	136870	315	201	309	356	272	303	401	—	—	285	353	—	—	—
HDP 160 4	**101.1**	17.8	125180	253	136	218	254	191	216	293	—	—	202	255	—	—	—
HDP 160 4	**117.9**	15.3	146130	253	136	218	254	191	216	293	—	—	202	255	—	—	—
HDP 160 4	**128.2**	14.0	137000	218	137	219	—	192	217	294	—	—	203	256	—	—	—
HDP 160 4	**140.4**	12.8	142990	208	139	221	—	194	219	—	—	—	205	258	—	—	—
HDP 160 4	**163.9**	11.0	146300	182	139	221	—	194	—	—	—	—	205	—	—	—	—
HDP 160 4	**178.1**	10.1	146860	168	139	221	—	194	—	—	—	—	205	—	—	—	—
HDP 160 4	**194.1**	9.3	130070	137	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**226.6**	7.9	146300	132	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**246.3**	7.3	147070	122	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**269.7**	6.7	141000	107	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**314.8**	5.7	146300	95	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**342.2**	5.3	147070	88	—	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

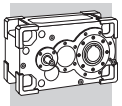


HDP 160 — n_1 = 1500 min^{-1}

					t_a = 20°C												
	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	P_T [kW]	$P_{TFANL\,/\,R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	$P_{TMCRA21}$ [kW]	$P_{TMCRA34}$ [kW]	$P_{TMCRA51}$ [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]	$P_{TMCRW21}$ [kW]	$P_{TMCRW34}$ [kW]	$P_{TMCRW51}$ [kW]
HDP 160 2	**9.0**	167	89290	1627	*	*	*	*	*	693	868	◐	*	*	*	873	◐
HDP 160 2	**10.5**	143	104220	1627	*	*	*	*	*	710	885		*	*	*	890	
HDP 160 2	**11.4**	132	110510	1587	*	*	*	*	*	718	893		*	*	*	898	
HDP 160 2	**12.6**	119	110220	1435	*	*	*	*	*	775	950		*	*	649	955	
HDP 160 2	**14.7**	102	119890	1337	*	*	558	*	543	786	961		*	*	660	966	
HDP 160 2	**15.9**	94	122470	1257	*	*	563	*	548	791	966		*	505	665	971	
HDP 160 2	**17.5**	86	116810	1095	*	517	598	505	583	826	1001		446	540	700	1006	
HDP 160 2	**20.4**	74	133430	1071	*	524	605	512	590	833	1008		453	547	707	1013	
HDP 160 2	**22.1**	68	136230	1006	*	528	609	516	594	837	1012		457	551	711	1017	
HDP 160 3	**24.4**	61	105110	718	*	373	429	372	429	605	731	—	329	397	513	735	—
HDP 160 3	**28.5**	53	122690	718	*	377	433	376	433	609	735	—	333	401	517	739	—
HDP 160 3	**31.0**	48	133350	718	*	378	434	377	434	610	736	—	334	402	518	740	—
HDP 160 3	**33.9**	44	142310	700	*	388	444	387	444	620	746	—	344	412	528	750	—
HDP 160 3	**39.6**	38	146300	616	262	390	446	389	446	622	—	—	346	414	530	752	—
HDP 160 3	**43.1**	35	138540	537	263	391	447	390	447	623	—	—	347	415	531	753	—
HDP 160 3	**49.4**	30	138770	469	293	421	477	420	477	—	—	—	377	445	561	—	—
HDP 160 3	**57.6**	26.0	145150	421	294	422	—	421	—	—	—	—	378	446	—	—	—
HDP 160 3	**62.6**	24.0	137300	366	295	423	—	422	—	—	—	—	379	—	—	—	—
HDP 160 3	**68.6**	21.9	143440	349	299	427	—	426	—	—	—	—	383	—	—	—	—
HDP 160 3	**80.0**	18.7	144140	301	300	428	—	427	—	—	—	—	384	—	—	—	—
HDP 160 3	**87.0**	17.2	136370	262	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**101.1**	14.8	132640	224	215	312	—	315	—	—	—	—	281	—	—	—	—
HDP 160 4	**117.9**	12.7	146300	211	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**128.2**	11.7	143630	191	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**140.4**	10.7	142380	173	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**163.9**	9.2	146300	152	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**178.1**	8.4	147070	141	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**194.1**	7.7	132640	116	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**226.6**	6.6	146300	110	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**246.3**	6.1	147070	102	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**269.7**	5.6	140530	89	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**314.8**	4.8	146300	79	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**342.2**	4.4	147070	73	—	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

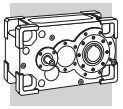


HDP 160 — n_1 = 1500 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 40°C												
					P_T	$P_{TFANL\,/\,R}$	P_{TFANLR}	P_{TMCRA5}	P_{TMCRA9}	$P_{TMCRA21}$	$P_{TMCRA34}$	$P_{TMCRA51}$	P_{TMCRW5}	P_{TMCRW9}	$P_{TMCRW21}$	$P_{TMCRW34}$	$P_{TMCRW51}$
		[min^{-1}]	[Nm]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
HDP 160 2	**9.0**	167	89290	1627	*	*	*	*	*	*	*		*	*	*	755	
HDP 160 2	**10.5**	143	104220	1627	*	*	*	*	*	*	*		*	*	*	772	
HDP 160 2	**11.4**	132	110510	1587	*	*	*	*	*	*	*		*	*	*	780	
HDP 160 2	**12.6**	119	110220	1435	*	*	*	*	*	*	*		*	*	*	837	
HDP 160 2	**14.7**	102	119890	1337	*	*	*	*	*	*	545	●	*	*	542	848	●
HDP 160 2	**15.9**	94	122470	1257	*	*	*	*	*	*	550		*	*	547	853	
HDP 160 2	**17.5**	86	116810	1095	*	*	*	*	*	488	585		*	*	582	888	
HDP 160 2	**20.4**	74	133430	1071	*	*	*	*	*	495	592		*	429	589	895	
HDP 160 2	**22.1**	68	136230	1006	*	*	420	*	*	499	596		*	433	593	899	
HDP 160 3	**24.4**	61	105110	718	*	*	291	*	*	356	426	456	*	308	424	646	856
HDP 160 3	**28.5**	53	122690	718	*	*	294	*	*	359	429	459	*	311	427	649	859
HDP 160 3	**31.0**	48	133350	718	*	*	296	*	*	361	431	461	*	313	429	651	861
HDP 160 3	**33.9**	44	142310	700	*	*	305	*	*	370	440	470	*	322	438	660	870
HDP 160 3	**39.6**	38	146300	616	*	267	308	*	275	373	443	473	257	325	441	663	—
HDP 160 3	**43.1**	35	138540	537	*	268	309	245	276	374	444	474	258	326	442	664	—
HDP 160 3	**49.4**	30	138770	469	203	297	338	274	305	403	473	—	287	355	471	—	—
HDP 160 3	**57.6**	26.0	145150	421	204	298	339	275	306	404	474	—	288	356	472	—	—
HDP 160 3	**62.6**	24.0	137300	366	205	299	340	276	307	405	—	—	289	357	473	—	—
HDP 160 3	**68.6**	21.9	143440	349	209	303	344	280	311	409	—	—	293	361	—	—	—
HDP 160 3	**80.0**	18.7	144140	301	210	304	—	281	312	—	—	—	294	362	—	—	—
HDP 160 3	**87.0**	17.2	136370	262	211	305	—	282	—	—	—	—	295	—	—	—	—
HDP 160 4	**101.1**	14.8	132640	224	147	218	250	202	227	—	—	—	213	266	—	—	—
HDP 160 4	**117.9**	12.7	146300	211	147	218	—	202	227	—	—	—	213	—	—	—	—
HDP 160 4	**128.2**	11.7	143630	191	148	219	—	203	—	—	—	—	214	—	—	—	—
HDP 160 4	**140.4**	10.7	142380	173	149	220	—	204	—	—	—	—	215	—	—	—	—
HDP 160 4	**163.9**	9.2	146300	152	150	221	—	205	—	—	—	—	216	—	—	—	—
HDP 160 4	**178.1**	8.4	147070	141	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**194.1**	7.7	132640	116	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**226.6**	6.6	146300	110	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**246.3**	6.1	147070	102	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**269.7**	5.6	140530	89	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**314.8**	4.8	146300	79	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**342.2**	4.4	147070	73	—	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

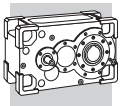


HDP 160 — n_1 = 1200 min^{-1}

					t_a = 20°C												
	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	P_T [kW]	$P_{TFANL\,/\,R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	$P_{TMCRA21}$ [kW]	$P_{TMCRA34}$ [kW]	$P_{TMCRA51}$ [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]	$P_{TMCRW21}$ [kW]	$P_{TMCRW34}$ [kW]	$P_{TMCRW51}$ [kW]
HDP 160 2	**9.0**	134	95480	1392	*	*	*	*	*	747	922	◐	*	*	621	927	◐
HDP 160 2	**10.5**	115	111440	1392	*	*	*	*	*	760	935		*	*	634	940	
HDP 160 2	**11.4**	105	118160	1357	*	*	*	*	*	767	942		*	*	641	947	
HDP 160 2	**12.6**	96	117850	1227	*	*	555	*	567	810	985		*	524	684	990	
HDP 160 2	**14.7**	82	128200	1144	*	491	564	498	576	819	994		*	533	693	999	
HDP 160 2	**15.9**	75	130950	1075	*	495	568	502	580	823	998		443	537	697	1003	
HDP 160 2	**17.5**	69	124900	936	*	522	595	529	607	850	1025		470	564	724	1030	
HDP 160 2	**20.4**	59	142670	916	*	528	601	535	613	856	1031		476	570	730	1036	
HDP 160 2	**22.1**	54	140260	829	362	530	603	537	615	858	—		478	572	732	1038	
HDP 160 3	**24.4**	49	112390	614	265	380	431	392	449	625	—	—	349	417	533	755	—
HDP 160 3	**28.5**	42	131180	614	267	382	433	394	451	627	—	—	351	419	535	757	—
HDP 160 3	**31.0**	39	138920	598	269	384	435	396	453	629	—	—	353	421	537	759	—
HDP 160 3	**33.9**	35	143440	564	276	391	442	403	460	636	—	—	360	428	544	766	—
HDP 160 3	**39.6**	30	145660	491	278	393	444	405	462	638	—	—	362	430	546	—	—
HDP 160 3	**43.1**	27.9	137780	427	279	394	445	406	463	—	—	—	363	431	—	—	—
HDP 160 3	**49.4**	24.3	138770	375	301	416	—	428	—	—	—	—	385	—	—	—	—
HDP 160 3	**57.6**	20.8	144450	335	303	418	—	430	—	—	—	—	387	—	—	—	—
HDP 160 3	**62.6**	19.2	136660	291	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 3	**68.6**	17.5	143440	279	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 3	**80.0**	15.0	146300	244	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 3	**87.0**	13.8	140140	215	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**101.1**	11.9	132640	179	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**117.9**	10.2	146300	169	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**128.2**	9.4	147070	156	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**140.4**	8.5	141690	137	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**163.9**	7.3	146300	122	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**178.1**	6.7	147070	112	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**194.1**	6.2	132640	93	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**226.6**	5.3	146300	88	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**246.3**	4.9	147070	81	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**269.7**	4.4	141690	72	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**314.8**	3.8	146300	63	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**342.2**	3.5	147070	59	—	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

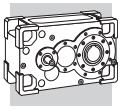


HDP 160 — n_1 = 1200 min^{-1}

	i	n_2	Mn_2	Pn_1	t_a = 40°C												
					P_T	$P_{TFANL\ /\ R}$	P_{TFANLR}	P_{TMCRA5}	P_{TMCRA9}	$P_{TMCRA21}$	$P_{TMCRA34}$	$P_{TMCRA51}$	P_{TMCRW5}	P_{TMCRW9}	$P_{TMCRW21}$	$P_{TMCRW34}$	$P_{TMCRW51}$
		[min^{-1}]	[Nm]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
HDP 160 2	**9.0**	134	95480	1392	*	*	*	*	*	*	*		*	*	*	809	
HDP 160 2	**10.5**	115	111440	1392	*	*	*	*	*	*	*		*	*	*	822	
HDP 160 2	**11.4**	105	118160	1357	*	*	*	*	*	*	*		*	*	*	829	
HDP 160 2	**12.6**	96	117850	1227	*	*	*	*	*	*	569		*	*	566	872	
HDP 160 2	**14.7**	82	128200	1144	*	*	*	*	*	481	578	◐	*	*	575	881	◐
HDP 160 2	**15.9**	75	130950	1075	*	*	*	*	*	485	582		*	*	579	885	
HDP 160 2	**17.5**	69	124900	936	*	*	413	*	377	512	609		*	446	606	912	
HDP 160 2	**20.4**	59	142670	916	*	*	419	*	383	518	615		*	452	612	918	
HDP 160 2	**22.1**	54	140260	829	*	367	421	341	385	520	617		360	454	614	920	
HDP 160 3	**24.4**	49	112390	614	*	260	296	246	277	375	445	475	259	327	443	665	—
HDP 160 3	**28.5**	42	131180	614	*	263	299	249	280	378	448	478	262	330	446	668	—
HDP 160 3	**31.0**	39	138920	598	*	264	300	250	281	379	449	479	263	331	447	669	—
HDP 160 3	**33.9**	35	143440	564	*	272	308	258	289	387	457	487	271	339	455	677	—
HDP 160 3	**39.6**	30	145660	491	*	273	309	259	290	388	458	488	272	340	456	678	—
HDP 160 3	**43.1**	27.9	137780	427	189	274	310	260	291	389	459	—	273	341	457	—	—
HDP 160 3	**49.4**	24.3	138770	375	212	297	333	283	314	412	—	—	296	364	480	—	—
HDP 160 3	**57.6**	20.8	144450	335	213	298	334	284	315	413	—	—	297	365	—	—	—
HDP 160 3	**62.6**	19.2	136660	291	213	298	—	284	315	—	—	—	297	—	—	—	—
HDP 160 3	**68.6**	17.5	143440	279	217	302	—	288	—	—	—	—	301	—	—	—	—
HDP 160 3	**80.0**	15.0	146300	244	218	303	—	289	—	—	—	—	302	—	—	—	—
HDP 160 3	**87.0**	13.8	140140	215	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**101.1**	11.9	132640	179	155	219	—	210	—	—	—	—	221	—	—	—	—
HDP 160 4	**117.9**	10.2	146300	169	156	220	—	211	—	—	—	—	222	—	—	—	—
HDP 160 4	**128.2**	9.4	147070	156	156	220	—	211	—	—	—	—	222	—	—	—	—
HDP 160 4	**140.4**	8.5	141690	137	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**163.9**	7.3	146300	122	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**178.1**	6.7	147070	112	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**194.1**	6.2	132640	93	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**226.6**	5.3	146300	88	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**246.3**	4.9	147070	81	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**269.7**	4.4	141690	72	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**314.8**	3.8	146300	63	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**342.2**	3.5	147070	59	—	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary



HDP 160 — n_1 = 1000 min^{-1}

					t_a = 20°C												
	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	P_T [kW]	$P_{TFANL\,/\,R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	$P_{TMCRA21}$ [kW]	$P_{TMCRA34}$ [kW]	$P_{TMCRA51}$ [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]	$P_{TMCRW21}$ [kW]	$P_{TMCRW34}$ [kW]	$P_{TMCRW51}$ [kW]
HDP 160 2	**9.0**	111	100840	1225	*	*	*	*	539	782	957		*	496	656	962	
HDP 160 2	**10.5**	95	117700	1225	*	*	*	*	550	793	968		*	507	667	973	
HDP 160 2	**11.4**	88	124800	1195	*	*	490	*	555	798	973		*	512	672	978	
HDP 160 2	**12.6**	80	124480	1080	*	469	526	513	591	834	1009		454	548	708	1014	
HDP 160 2	**14.7**	68	135400	1007	*	476	533	520	598	841	1016	●	461	555	715	1021	●
HDP 160 2	**15.9**	63	138320	946	*	479	536	523	601	844	1019		464	558	718	1024	
HDP 160 2	**17.5**	57	131920	824	370	501	558	545	623	866	—		486	580	740	1046	
HDP 160 2	**20.4**	49	147540	790	375	506	563	550	628	871	—		491	585	745	1051	
HDP 160 2	**22.1**	45	139510	687	377	508	565	552	630	873	—		493	587	747	—	
HDP 160 3	**24.4**	41	118710	541	278	368	407	405	462	638	—	—	362	430	546	—	—
HDP 160 3	**28.5**	35	138550	541	280	370	409	407	464	640	—	—	364	432	548	—	—
HDP 160 3	**31.0**	32	138270	496	281	371	410	408	465	641	—	—	365	433	549	—	—
HDP 160 3	**33.9**	29.5	143440	470	287	377	416	414	471	—	—	—	371	439	555	—	—
HDP 160 3	**39.6**	25.2	145050	407	288	378	417	415	—	—	—	—	372	440	—	—	—
HDP 160 3	**43.1**	23.2	137210	355	289	379	—	416	—	—	—	—	373	—	—	—	—
HDP 160 3	**49.4**	20.3	138770	313	307	397	—	434	—	—	—	—	391	—	—	—	—
HDP 160 3	**57.6**	17.4	144930	280	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 3	**62.6**	16.0	137140	244	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 3	**68.6**	14.6	143440	233	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 3	**80.0**	12.5	146300	203	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 3	**87.0**	11.5	144010	184	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**101.1**	9.9	132640	149	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**117.9**	8.5	146300	141	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**128.2**	7.8	147070	130	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**140.4**	7.1	141170	114	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**163.9**	6.1	146300	101	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**178.1**	5.6	147070	94	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**194.1**	5.2	132640	78	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**226.6**	4.4	146300	73	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**246.3**	4.1	147070	68	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**269.7**	3.7	143440	60	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**314.8**	3.2	146300	53	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**342.2**	2.9	147070	49	—	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

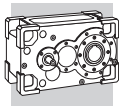
HDP 160

n_1 = 1000 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 40°C												
					P_T [kW]	$P_{TFANL\,/\,R}$ [kW]	P_{TFANLR} [kW]	P_{TMCRA5} [kW]	P_{TMCRA9} [kW]	$P_{TMCRA21}$ [kW]	$P_{TMCRA34}$ [kW]	$P_{TMCRA51}$ [kW]	P_{TMCRW5} [kW]	P_{TMCRW9} [kW]	$P_{TMCRW21}$ [kW]	$P_{TMCRW34}$ [kW]	$P_{TMCRW51}$ [kW]
HDP 160 2	**9.0**	111	100840	1225	*	*	*	*	*	*	541	●	*	*	538	844	●
HDP 160 2	**10.5**	95	117700	1225	*	*	*	*	*	*	552		*	*	549	855	
HDP 160 2	**11.4**	88	124800	1195	*	*	*	*	*	*	557		*	*	554	860	
HDP 160 2	**12.6**	80	124480	1080	*	*	*	*	*	496	593		*	*	590	896	
HDP 160 2	**14.7**	68	135400	1007	*	*	*	*	*	503	600		*	437	597	903	
HDP 160 2	**15.9**	63	138320	946	*	*	*	*	*	506	603		*	440	600	906	
HDP 160 2	**17.5**	57	131920	824	*	348	390	349	393	528	625		368	462	622	928	
HDP 160 2	**20.4**	49	147540	790	*	353	395	354	398	533	630		373	467	627	933	
HDP 160 2	**22.1**	45	139510	687	*	355	397	356	400	535	632		375	469	629	935	
HDP 160 3	**24.4**	41	118710	541	*	254	282	259	290	388	458	488	272	340	456	678	—
HDP 160 3	**28.5**	35	138550	541	*	256	284	261	292	390	460	490	274	342	458	680	—
HDP 160 3	**31.0**	32	138270	496	*	257	285	262	293	391	461	491	275	343	459	681	—
HDP 160 3	**33.9**	29.5	143440	470	197	263	291	268	299	397	467	497	281	349	465	687	—
HDP 160 3	**39.6**	25.2	145050	407	199	265	293	270	301	399	469	—	283	351	467	—	—
HDP 160 3	**43.1**	23.2	137210	355	199	265	293	270	301	399	—	—	283	351	467	—	—
HDP 160 3	**49.4**	20.3	138770	313	218	284	312	289	320	—	—	—	302	370	—	—	—
HDP 160 3	**57.6**	17.4	144930	280	219	285	—	290	—	—	—	—	303	—	—	—	—
HDP 160 3	**62.6**	16.0	137140	244	219	285	—	290	—	—	—	—	303	—	—	—	—
HDP 160 3	**68.6**	14.6	143440	233	222	288	—	293	—	—	—	—	306	—	—	—	—
HDP 160 3	**80.0**	12.5	146300	203	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 3	**87.0**	11.5	144010	184	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**101.1**	9.9	132640	149	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**117.9**	8.5	146300	141	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**128.2**	7.8	147070	130	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**140.4**	7.1	141170	114	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**163.9**	6.1	146300	101	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**178.1**	5.6	147070	94	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**194.1**	5.2	132640	78	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**226.6**	4.4	146300	73	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**246.3**	4.1	147070	68	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**269.7**	3.7	143440	60	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**314.8**	3.2	146300	53	—	—	—	—	—	—	—	—	—	—	—	—	—
HDP 160 4	**342.2**	2.9	147070	49	—	—	—	—	—	—	—	—	—	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

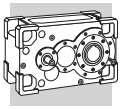


HDP 170 — n_1 = 1500 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 20°C		t_a = 40°C	
					P_T [kW]	P_{TFAN} [kW]	P_T [kW]	P_{TFAN} [kW]
HDP 170 2	**7.8**	191	133930	2796	*	*	*	*
HDP 170 2	**9.1**	165	140750	2532	*	*	*	*
HDP 170 2	**9.8**	152	143860	2389	*	*	*	*
HDP 170 2	**11.3**	133	144760	2099	*	*	*	*
HDP 170 2	**13.1**	115	159740	1996	*	*	*	*
HDP 170 2	**14.2**	106	163600	1887	*	*	*	*
HDP 170 2	**15.4**	98	157710	1679	*	*	*	*
HDP 170 2	**17.8**	84	165580	1519	*	641	*	*
HDP 170 2	**19.3**	78	169600	1436	*	645	*	*
HDP 170 3	**23.2**	65	151770	1093	*	*	*	*
HDP 170 3	**26.9**	56	176160	1093	*	*	*	*
HDP 170 3	**29.1**	51	182320	1044	*	420	*	*
HDP 170 3	**31.6**	48	177810	940	*	434	*	*
HDP 170 3	**36.7**	41	190190	866	*	436	*	*
HDP 170 3	**39.7**	38	182210	766	*	438	*	*
HDP 170 3	**45.1**	33	183920	680	336	481	*	336
HDP 170 3	**52.4**	28.6	189610	604	338	483	*	338
HDP 170 3	**56.7**	26.4	180610	531	338	483	232	338
HDP 170 3	**61.4**	24.4	188900	513	344	489	238	344
HDP 170 3	**71.3**	21.0	188320	441	346	491	239	345
HDP 170 3	**77.2**	19.4	179410	388	346	491	240	346
HDP 170 4	**92.7**	16.2	183920	338	212	322	*	212
HDP 170 4	**107.6**	13.9	190190	301	213	323	132	213
HDP 170 4	**116.6**	12.9	182320	266	223	333	142	223
HDP 170 4	**126.3**	11.9	188900	255	229	339	149	230
HDP 170 4	**146.6**	10.2	190190	221	—	—	149	230
HDP 170 4	**158.8**	9.4	182320	196	—	—	156	237
HDP 170 4	**177.4**	8.5	183920	177	—	—	176	257
HDP 170 4	**206.0**	7.3	190190	157	—	—	—	—
HDP 170 4	**223.1**	6.7	182320	139	—	—	—	—
HDP 170 4	**241.7**	6.2	188900	133	—	—	—	—
HDP 170 4	**280.5**	5.3	190190	115	—	—	—	—
HDP 170 4	**303.8**	4.9	182320	102	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

— Thermal verification not necessary

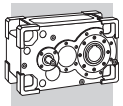


HDP 180 — n_1 = 1500 min^{-1}

	i	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	t_a = 20°C		t_a = 40°C	
					P_T [kW]	P_{TFAN} [kW]	P_T [kW]	P_{TFAN} [kW]
HDP 180 2	**8.7**	172	148810	2796	*	*	*	*
HDP 180 2	**10.1**	149	155960	2533	*	*	*	*
HDP 180 2	**10.9**	138	159170	2390	*	*	*	*
HDP 180 2	**12.5**	120	160840	2099	*	*	*	*
HDP 180 2	**14.5**	103	176950	1996	*	*	*	*
HDP 180 2	**15.7**	96	180960	1887	*	*	*	*
HDP 180 2	**17.1**	88	175290	1680	*	*	*	*
HDP 180 2	**19.8**	76	183470	1519	*	678	*	*
HDP 180 2	**21.4**	70	187640	1437	*	682	*	*
HDP 180 3	**25.8**	58	168630	1093	*	441	*	*
HDP 180 3	**29.8**	50	195130	1093	*	445	*	*
HDP 180 3	**32.2**	47	200130	1036	*	446	*	*
HDP 180 3	**35.1**	43	197560	940	*	459	*	*
HDP 180 3	**40.6**	37	202450	832	*	462	*	*
HDP 180 3	**43.9**	34	198410	754	318	463	*	311
HDP 180 3	**50.1**	29.9	204380	680	361	506	*	354
HDP 180 3	**58.0**	25.9	202450	583	363	508	250	356
HDP 180 3	**62.7**	23.9	196680	523	363	508	251	357
HDP 180 3	**68.3**	22.0	209900	513	369	514	257	363
HDP 180 3	**79.0**	19.0	202450	428	370	515	258	364
HDP 180 3	**85.4**	17.6	195370	382	371	516	258	364
HDP 180 4	**103.0**	14.6	204380	338	231	341	145	226
HDP 180 4	**119.2**	12.6	202450	289	231	341	146	227
HDP 180 4	**128.9**	11.6	205480	271	241	351	155	236
HDP 180 4	**140.3**	10.7	209900	255	248	358	162	243
HDP 180 4	**162.4**	9.2	202450	212	—	—	163	244
HDP 180 4	**175.6**	8.5	207020	201	—	—	170	251
HDP 180 4	**197.2**	7.6	204380	177	—	—	—	—
HDP 180 4	**228.1**	6.6	202450	151	—	—	—	—
HDP 180 4	**246.7**	6.1	205480	142	—	—	—	—
HDP 180 4	**268.5**	5.6	209900	133	—	—	—	—
HDP 180 4	**310.7**	4.8	202450	111	—	—	—	—
HDP 180 4	**336.1**	4.5	207020	105	—	—	—	—

* BONFIGLIOLI TECHNICAL SERVICE

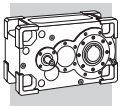
— Thermal verification not necessary



18 MASS MOMENT OF INERTIA

Moments of inertia listed refer to gearbox input shaft and apply exclusively for configurations with a single extension input and output shaft.

	i_N	$J \cdot 10^{-4}$ [kg m^2]													
		HDP 60	**HDP 70**	**HDP 80**	**HDP 90**	**HDP 100**	**HDP 110**	**HDP 120**	**HDP 125**	**HDP 130**	**HDP 140**	**HDP 150**	**HDP 160**	**HDP 170**	**HDP 180**
2x	**7.1**	120	—	—	—	1220	—	—	—	5602	—	—	—	BONFIGLIOLI TECHNICAL SERVICE	
	8.0	116	143	335	600	1170	1288	2558	—	5402	6157	12297	—		
	9.0	95	133	314	570	918	1232	2481	2729	4446	5858	11477	13554		
	10.0	92	109	263	440	884	963	1804	2643	4303	4840	11094	12503		
	11.2	68	103	248	421	682	926	1759	1905	3050	4627	7584	12014		
	12.5	67	77	183	324	661	712	1285	1854	2967	3279	7165	8226		
	14.0	54	74	175	311	508	688	1256	1348	1916	3155	6970	7689		
	16.0	53	60	132	226	494	526	1038	1316	1863	2062	4651	7439		
	18.0	33	58	127	219	388	511	1019	1080	1418	1983	4434	4983		
	20.0	33	40	99	171	379	399	717	1059	1383	1514	4332	4705		
	22.4	—	38	95	166	374	390	705	742	1621	1462	—	4576		
	25.0	—	—	—	—	—	378	689	729	—	1401	—	—		
3x	**22.4**	33	—	—	—	346	—	—	—	1365	—	4112	—		
	25.0	33	36	85	177	341	354	468	—	1343	1427	4002	4282		
	28.0	29	35	83	174	307	348	461	485	1147	1394	3950	4140		
	31.5	29	30	68	156	304	312	382	476	1134	1183	3433	4074		
	35.5	27	30	67	154	279	308	378	393	1031	1163	3375	3521		
	40.0	27	28	67	91	277	282	341	387	1023	1054	3348	3447		
	45.0	24	27	66	90	261	280	338	348	959	1041	1306	3413		
	50.0	24	25	44	82	260	263	296	345	953	974	1278	1347		
	56.0	11	25	44	82	110	262	294	300	414	966	1266	1312		
	63.0	11	12	41	77	109	111	137	298	410	451	1139	1296		
	71.0	11	12	41	77	102	110	136	140	384	446	1125	1161		
	80.0	11	11	21	39	102	103	126	138	382	390	1118	1143		
	90.0	10	11	21	38	97	103	126	128	365	387	—	1134		
	100.0	10	10	20	36	97	98	112	127	364	369	—	—		
	112.0	—	10	20	36	97	97	111	116	374	367	—	—		
	125.0	—	—	—	—	—	97	111	115	—	365	—	—		
4x	**90.0**	—	—	—	—	—	—	—	—	—	—	510	—		
	100.0	—	—	—	—	—	—	—	—	—	—	503	519		
	112.0	—	—	—	—	46	—	—	—	244	—	500	511		
	125.0	—	—	—	—	46	47	51	—	243	—	470	507		
	140.0	—	—	—	—	45	46	51	52	237	245	466	475		
	160.0	—	—	—	—	44	45	49	52	239	238	465	471		
	180.0	—	—	—	—	43	40	49	45	214	237	184	469		
	200.0	—	—	—	—	43	44	46	45	214	233	182	187		
	224.0	—	—	—	—	39	43	46	43	212	215	181	184		
	250.0	—	—	—	—	39	16	41	43	211	212	173	183		
	280.0	—	—	—	—	16	16	41	41	74	212	172	175		
	315.0	—	—	—	—	16	16	17	18	73	74	172	173		
	355.0	—	—	—	—	15	16	17	17	68	74	—	173		
	400.0	—	—	—	—	15	15	15	16	68	68	—	—		
	450.0	—	—	—	—	14	15	16	16	67	68	—	—		
	500.0	—	—	—	—	14	14	15	16	67	67	—	—		

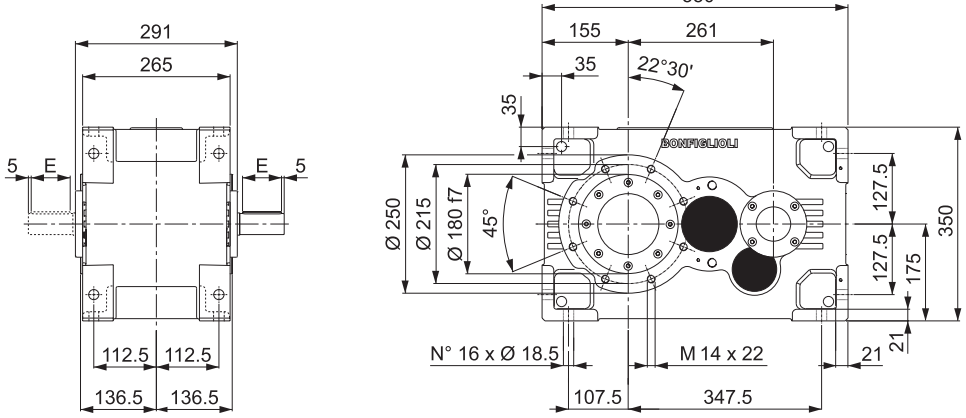


19 EXACT RATIOS

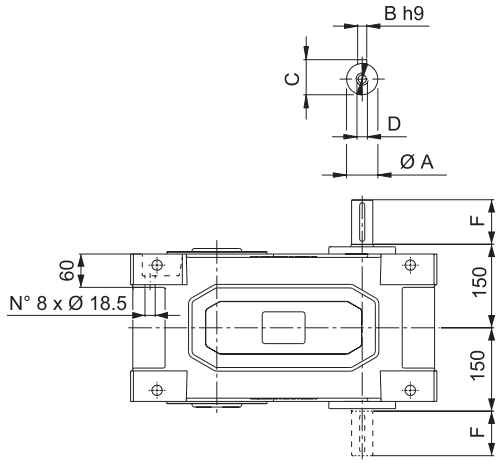
	i_N	i													
		HDP 60	HDP 70	HDP 80	HDP 90	HDP 100	HDP 110	HDP 120	HDP 125	HDP 130	HDP 140	HDP 150	HDP 160	HDP 170	HDP 180
2x	7.1	7.146	—	—	—	7.400	—	—	—	7.263	—	—	—	—	—
	8.0	8.031	8.039	8.063	7.929	8.222	8.085	7.907	—	7.929	8.359	7.905	—	7.833	—
	9.0	8.969	9.333	9.361	8.828	9.106	8.956	8.611	8.922	8.613	9.250	9.263	8.977	9.092	8.704
	10.0	10.079	10.090	9.844	10.059	10.118	9.949	10.302	9.601	9.402	9.913	10.087	10.478	9.848	10.071
	11.2	11.156	11.714	11.429	11.200	11.250	11.021	11.219	11.624	11.307	10.969	11.063	11.389	11.278	10.892
	12.5	12.538	12.551	12.600	12.214	12.500	12.292	13.013	12.508	12.343	13.013	12.963	12.563	13.090	12.531
	14.0	13.533	14.571	14.629	13.600	14.160	13.616	14.171	14.682	14.133	14.400	14.116	14.663	14.178	14.500
	16.0	15.209	15.225	15.488	15.807	15.733	15.471	15.976	15.800	15.429	16.267	15.370	15.938	15.361	15.681
	18.0	17.267	17.676	17.981	17.600	18.000	17.138	17.398	18.025	17.431	18.000	18.010	17.454	17.830	17.068
	20.0	19.404	19.425	19.441	20.086	20.000	19.667	20.624	19.397	19.029	20.062	19.612	20.371	19.311	19.750
	22.4	—	22.552	22.571	22.364	21.786	21.786	22.459	23.269	21.652	22.200	—	22.143	—	21.359
	25.0	—	—	—	—	—	25.000	25.357	25.040	—	24.941	—	—	—	—
3x	22.4	22.686	—	—	—	22.765	—	—	—	21.785	—	21.510	—	23.182	—
	25.0	25.494	25.521	25.800	25.406	25.294	24.873	25.756	—	23.781	25.073	25.205	24.427	26.908	25.758
	28.0	28.219	29.630	29.954	28.288	28.125	27.553	28.048	29.059	28.599	27.744	27.448	28.510	29.143	29.806
	31.5	31.713	31.746	31.713	32.878	31.250	30.729	32.533	31.271	31.220	32.916	29.886	30.990	31.576	32.234
	35.5	34.231	36.857	36.818	36.608	35.400	34.040	35.429	36.706	35.749	36.424	35.019	33.938	36.650	35.084
	40.0	38.470	38.510	39.809	40.036	39.333	38.678	39.940	39.500	39.025	41.145	38.135	39.611	39.695	40.597
	45.0	43.675	44.710	46.218	44.578	45.000	42.845	43.495	45.063	44.090	45.529	43.460	43.056	45.111	43.905
	50.0	49.082	49.134	51.625	51.811	50.000	49.167	51.560	48.493	48.131	50.746	50.924	49.353	52.361	50.123
	56.0	56.578	57.044	59.937	57.689	55.547	54.464	56.148	58.172	56.533	56.153	55.456	57.603	56.711	58.000
	63.0	63.583	63.650	64.805	65.837	61.719	60.690	64.253	62.600	61.714	65.067	60.381	62.612	61.444	62.726
	71.0	68.633	73.898	75.238	73.306	69.915	67.229	69.971	72.494	70.667	72.000	70.752	68.568	71.319	68.272
	80.0	77.131	77.213	76.405	77.818	77.683	76.389	78.882	78.013	77.143	81.333	77.048	80.031	77.244	79.000
	90.0	87.567	89.644	88.706	86.646	88.875	84.619	85.902	88.999	87.156	90.000	—	86.990	—	85.437
	100.0	98.408	98.513	95.911	98.884	98.750	97.104	101.830	95.774	95.143	100.311	—	—	—	—
	112.0	—	114.373	111.352	110.102	107.567	107.567	110.892	114.890	108.259	111.000	—	—	—	—
	125.0	—	—	—	—	—	123.438	125.201	123.636	—	124.704	—	—	—	—
4x	90.0	—	—	—	—	—	—	—	—	—	—	88.989	—	92.728	—
	100.0	—	—	—	—	—	—	—	—	—	—	104.273	101.055	107.631	103.032
	112.0	—	—	—	—	110.625	—	—	—	111.182	—	113.553	117.948	116.573	119.222
	125.0	—	—	—	—	122.917	120.868	127.964	—	121.371	—	123.638	128.205	126.302	128.937
	140.0	—	—	—	—	139.240	133.891	139.352	144.376	138.978	141.600	144.873	140.402	146.601	140.336
	160.0	—	—	—	—	154.711	168.525	157.099	155.367	151.714	159.956	157.765	163.872	158.780	162.389
	180.0	—	—	—	—	177.000	190.972	171.080	181.235	176.667	177.000	170.942	178.122	177.437	175.621
	200.0	—	—	—	—	196.667	193.389	202.801	195.031	192.857	197.279	200.301	194.121	205.954	197.152
	225.0	—	—	—	—	222.188	214.226	220.849	222.499	217.889	225.000	218.127	226.571	223.064	228.133
	250.0	—	—	—	—	246.875	248.643	254.575	246.228	237.857	250.778	237.499	246.272	241.681	246.722
	280.0	—	—	—	—	286.437	275.434	277.231	287.226	274.481	277.500	278.290	269.702	280.523	268.535
	315.0	—	—	—	—	318.263	312.958	323.176	319.611	299.636	315.912	303.056	314.787	303.828	310.733
	355.0	—	—	—	—	359.563	346.679	351.936	364.624	348.917	349.575	—	342.160	—	336.052
	400.0	—	—	—	—	399.514	392.856	405.681	401.207	380.893	401.583	—	—	—	—
	450.0	—	—	—	—	457.071	440.694	454.317	457.712	469.768	444.375	—	—	—	—
	500.0	—	—	—	—	507.857	499.393	523.697	506.527	534.530	495.286	—	—	—	—

20 DIMENSIONS AND WEIGHT

HDP 60

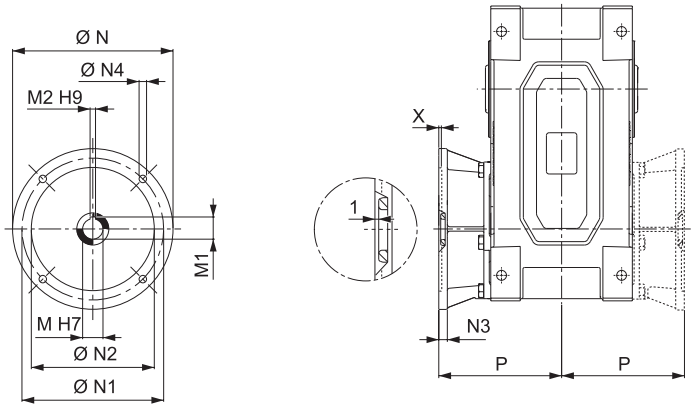


VP



VP	i =	A	B	C	D	E	F	Kg LP
HDP 60 2	**7.1 ... 15.2**	38 k6	10	41	M12x28	70	80	161
HDP 60 2	**17.3 ... 19.4**	32 k6	10	35	M12x28	70	80	161
HDP 60 3	**22.7 ... 49.1**	32 k6	10	35	M12x28	70	80	164
HDP 60 3	**56.6 ... 98.4**	28 j6	8	31	M10x22	50	60	164

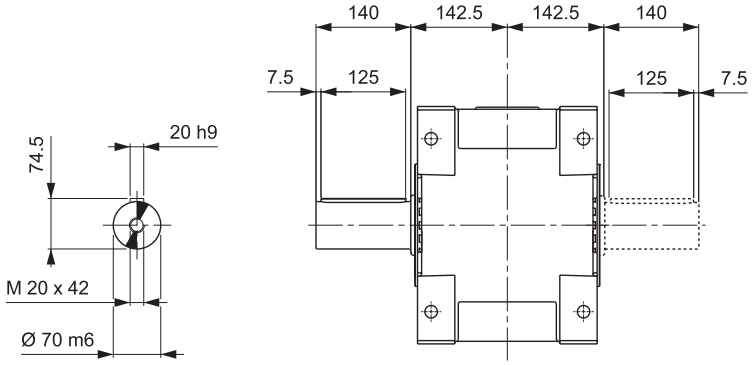
AD



AD	M	M1	M2	N	N1	N2	N3	N4	X	P
HDP 60 3_ 112	28	31.3	8	250	215	180	15	14	5	220
HDP 60 3_ 132	38	41.3	10	300	265	230	16	14	5	230
HDP 60 3_ 160	42	45.3	12	350	300	250	23	18	6	261
HDP 60 3_ 180	48	51.8	14	350	300	250	23	18	6	261

HDP 60

LP



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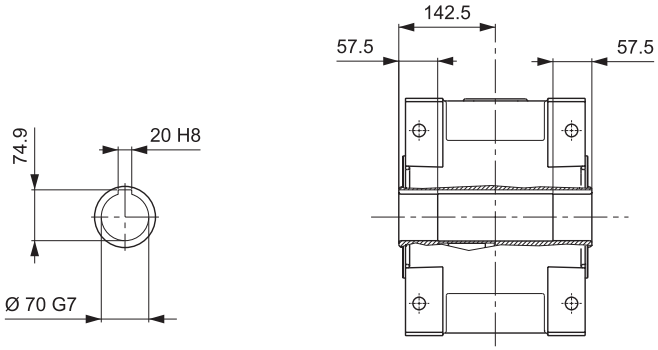

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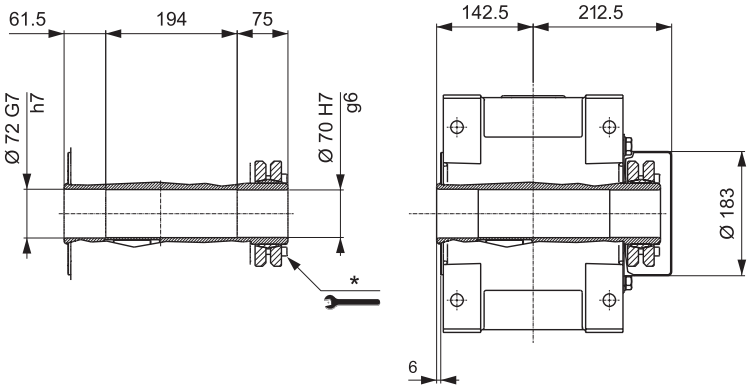
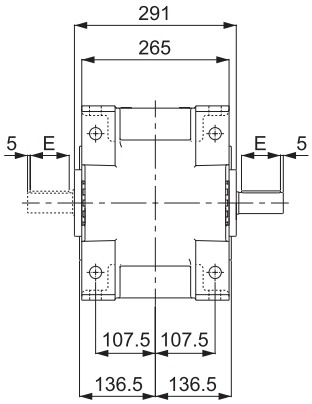
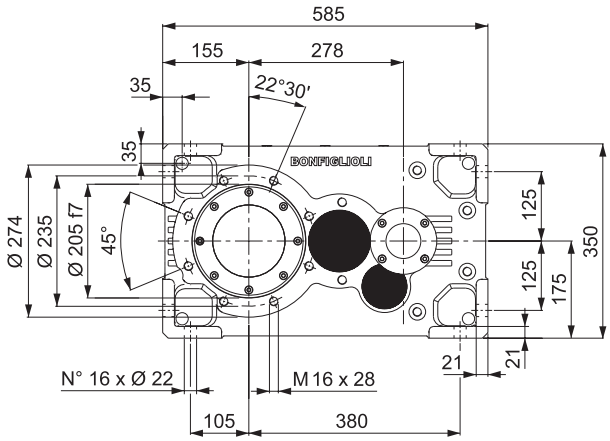
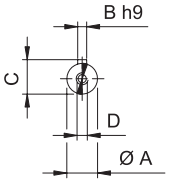


* For correct use, refer to the “OPERATION AND MAINTENANCE MANUAL”.

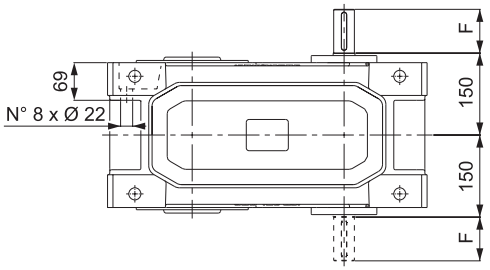
HDP 70





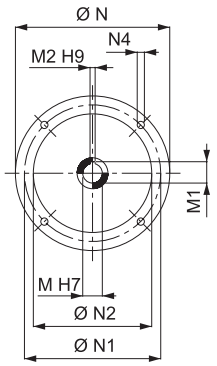


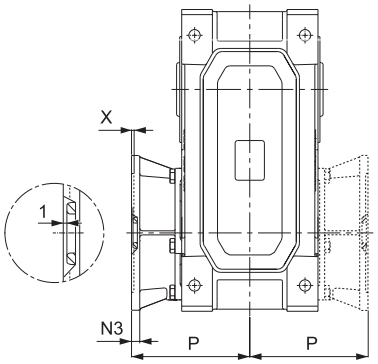
VP



VP	i =	A	B	C	D	E	F	Kg LP
HDP 70 2	**8.0 ... 17.7**	38 k6	10	41	M12x28	70	80	189
HDP 70 2	**19.4 ... 22.6**	32 k6	10	35	M12x28	70	80	189
HDP 70 3	**25.5 ... 57.0**	32 k6	10	35	M12x28	70	80	192
HDP 70 3	**63.7 ... 114.4**	28 j6	8	31	M10x22	50	60	192

AD

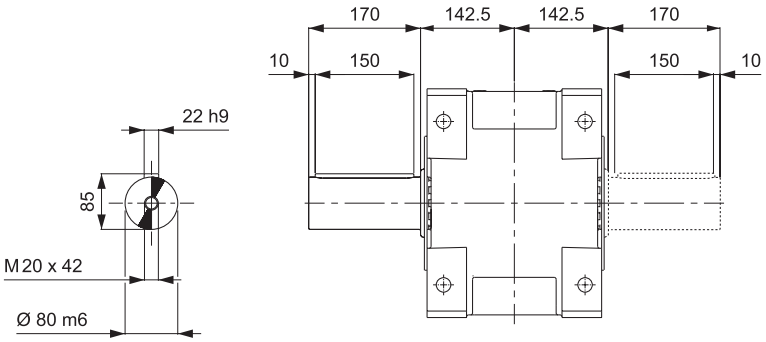




AD	M	M1	M2	N	N1	N2	N3	N4	X	P
HDP 70 3_ 112	28	31.3	8	250	215	180	15	14	5	220
HDP 70 3_ 132	38	41.3	10	300	265	230	16	14	5	230
HDP 70 3_ 160	42	45.3	12	350	300	250	23	18	6	261
HDP 70 3_ 180	48	51.8	14	350	300	250	23	18	6	261
HDP 70 3_ 200	55	59.3	16	400	350	300	-	M16x23	7	286

HDP 70

LP



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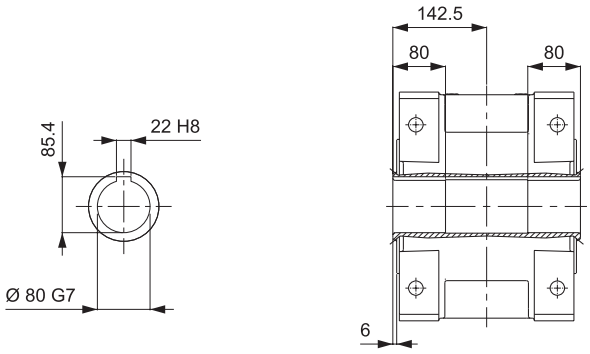

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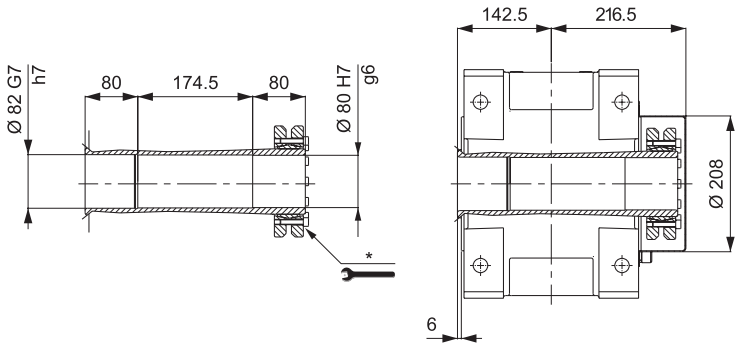
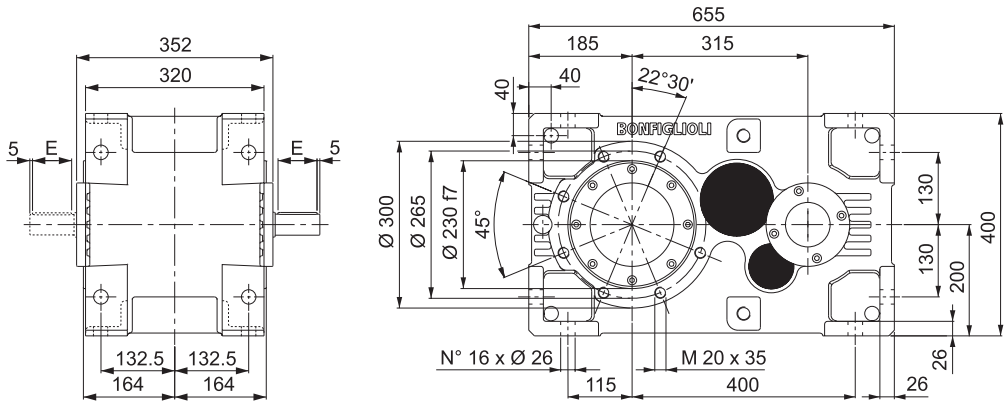
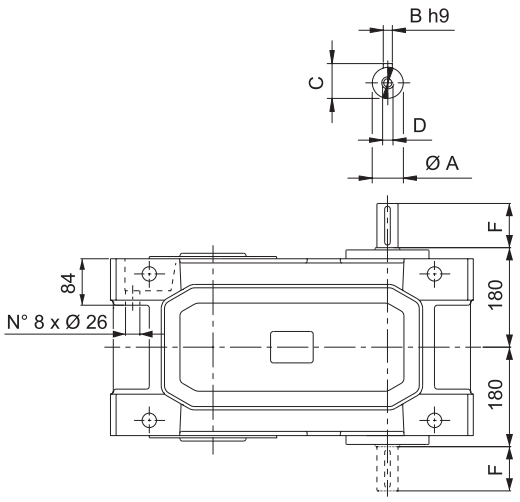


* For correct use, refer to the “OPERATION AND MAINTENANCE MANUAL”.

HDP 80

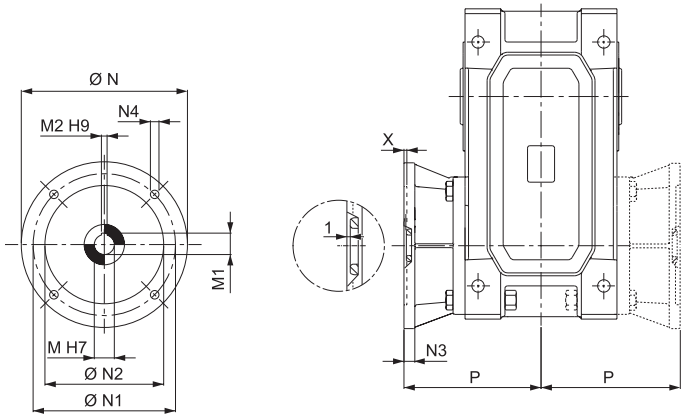


VP



VP	i =	A	B	C	D	E	F	Kg LP
HDP 80 2	**8.1 ... 14.6**	45 k6	14	48.5	M16x36	100	110	301
HDP 80 2	**15.5 ... 22.6**	38 k6	10	41	M12x28	70	80	301
HDP 80 3	**25.8 ... 75.2**	38 k6	10	41	M12x28	70	80	306
HDP 80 3	**76.4 ... 114.4**	28 j6	8	31	M10x22	50	60	306

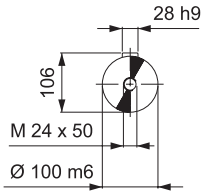
AD

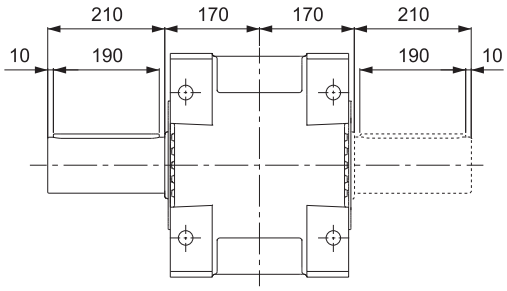


AD	M	M1	M2	N	N1	N2	N3	N4	X	P
HDP 80 3_ 132	38	41.3	10	300	265	230	16	14	5	257.5
HDP 80 3_ 160	42	45.3	12	350	300	250	23	18	6	288.5
HDP 80 3_ 180	48	51.8	14	350	300	250	23	18	6	288.5
HDP 80 3_ 200	55	59.3	16	400	350	300	-	M16x23	7	313.5

HDP 80

LP





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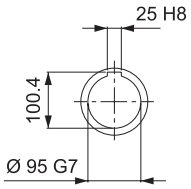
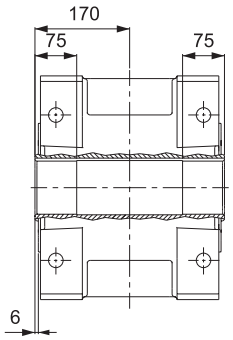
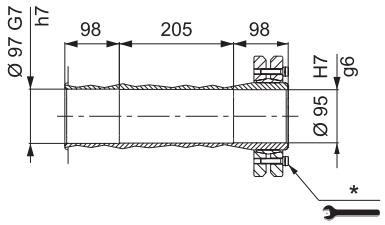
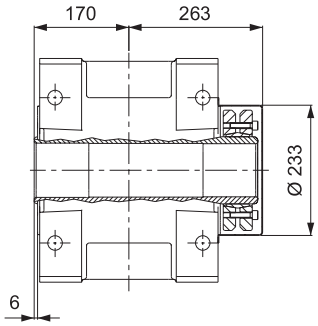




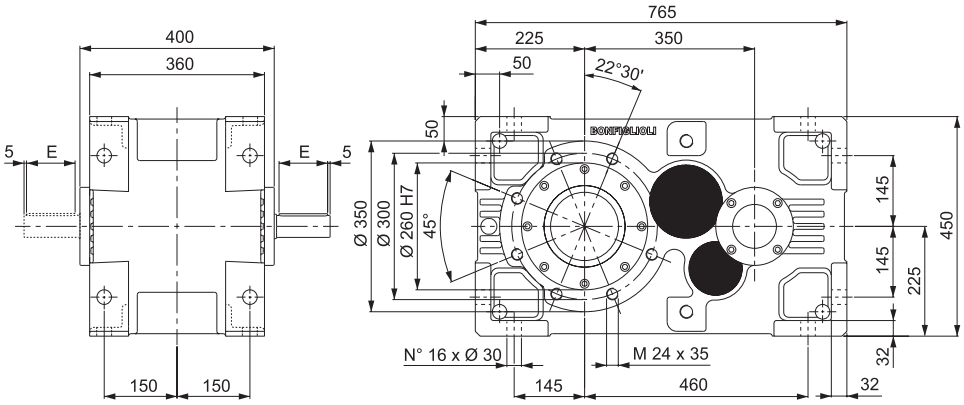
S



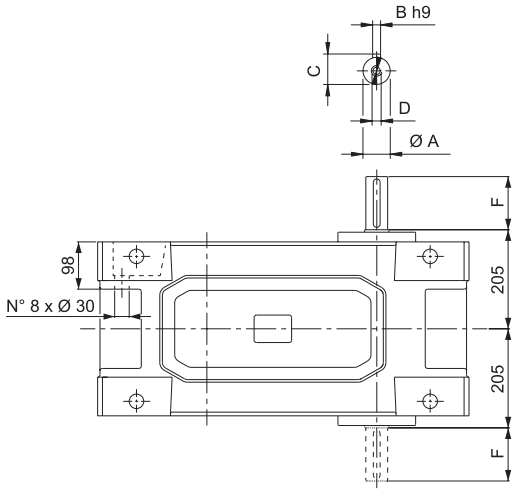


* For correct use, refer to the “OPERATION AND MAINTENANCE MANUAL”.

HDP 90

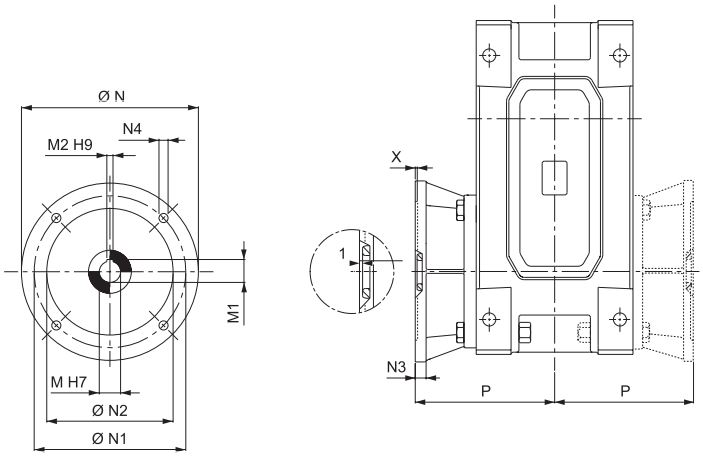


VP



VP	i =	A	B	C	D	E	F	Kg LP
HDP 90 2	**7.9 ... 13.6**	50 k6	14	53.5	M16x36	100	110	429
HDP 90 2	**15.8 ... 22.4**	45 k6	14	48.5	M16x36	100	110	429
HDP 90 3	**25.4 ... 73.3**	45 k6	14	48.5	M16x36	100	110	440
HDP 90 3	**77.8 ... 110.1**	32 k6	10	35	M12x28	70	80	440

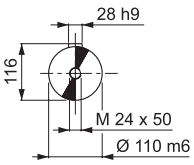
AD

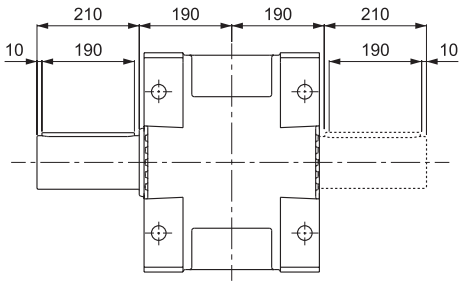


AD	M	M1	M2	N	N1	N2	N3	N4	X	P
HDP 90 3_ 160	42	45.3	12	350	300	250	23	18	6	308.5
HDP 90 3_ 180	48	51.8	14	350	300	250	23	18	6	308.5
HDP 90 3_ 200	55	59.3	16	400	350	300	-	M16x23	7	333.5

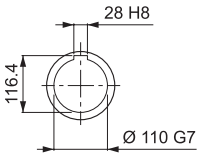
HDP 90

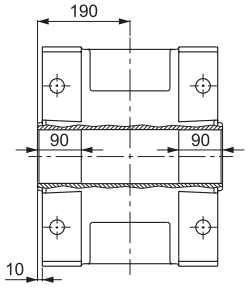
LP



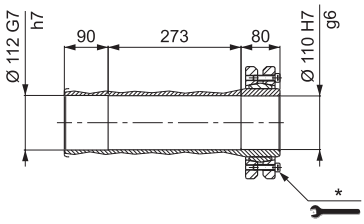


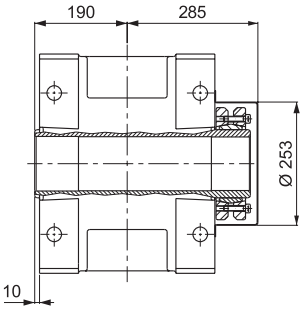
H





S

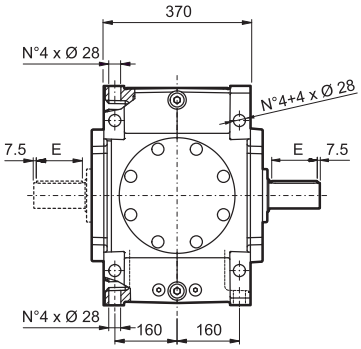


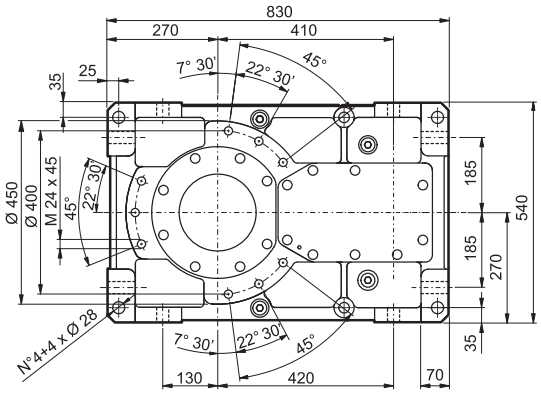


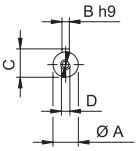
* For correct use, refer to the “OPERATION AND MAINTENANCE MANUAL”.

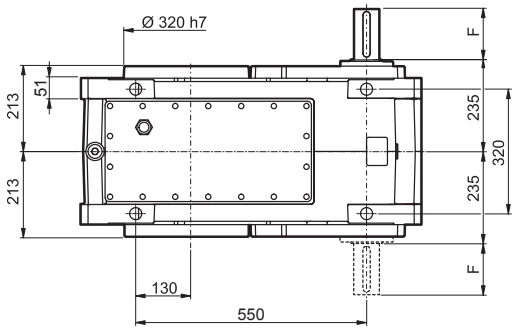
HDP 100

HDP 100 2

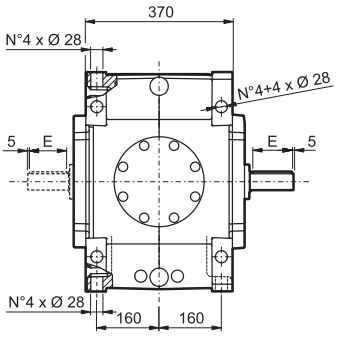


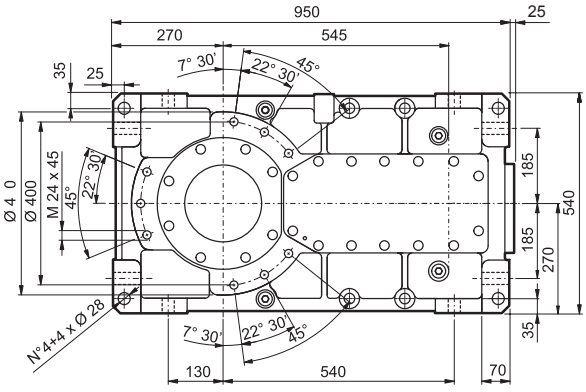


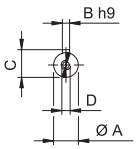


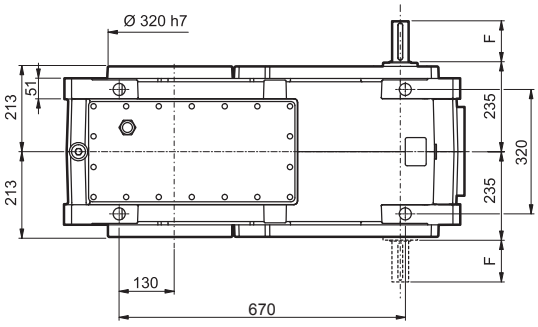


HDP 100 3
HDP 100 4





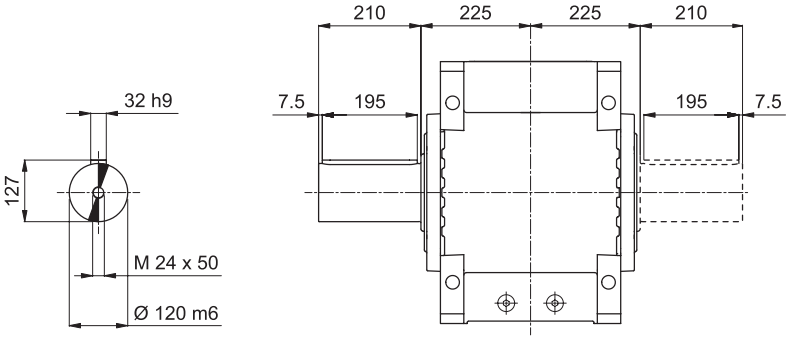




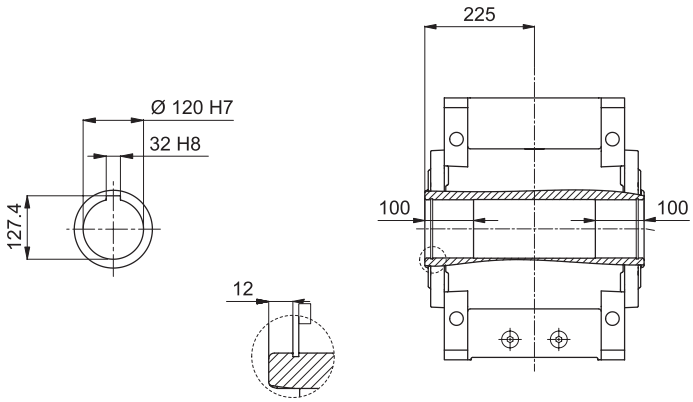
VP	i =	A	B	C	D	E	F	Kg LP
HDP 100 2	**7.4 … 21.8**	60 m6	18	64	M20x42	125	140	625
HDP 100 3	**22.8 … 50**	48 k6	14	51.5	M16x36	100	110	700
HDP 100 3	**55.5 … 107.8**	45 k6	14	48.5	M16x36	100	110	700
HDP 100 4	**110.6 … 507.9**	32 k6	10	35	M12x28	70	80	715

HDP 100

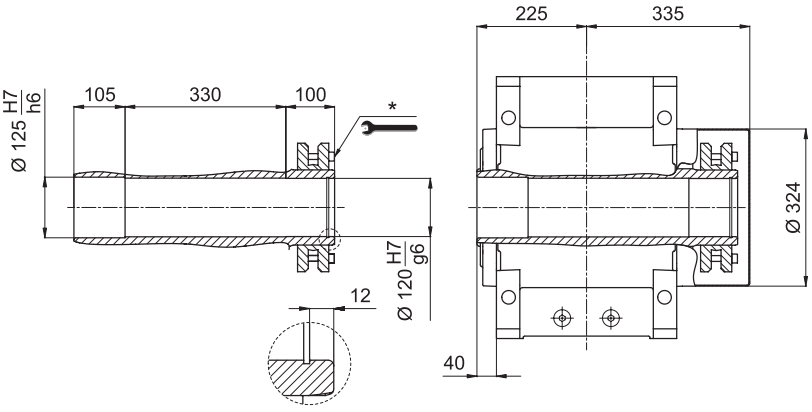
LP



H



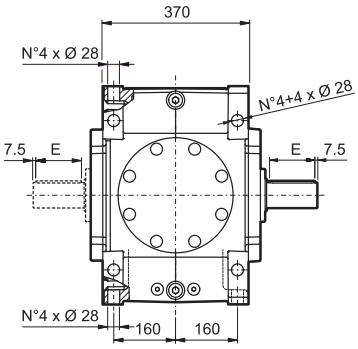
S

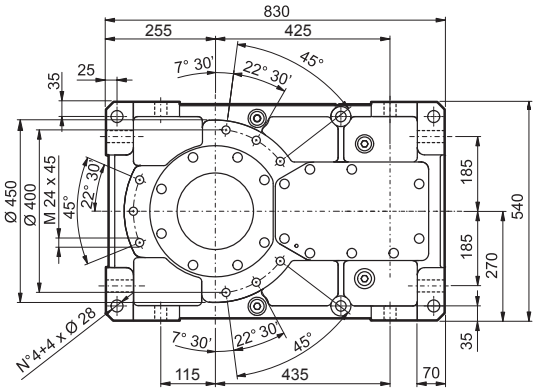


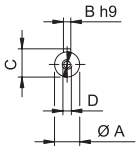
* For correct use, refer to the “OPERATION AND MAINTENANCE MANUAL”.

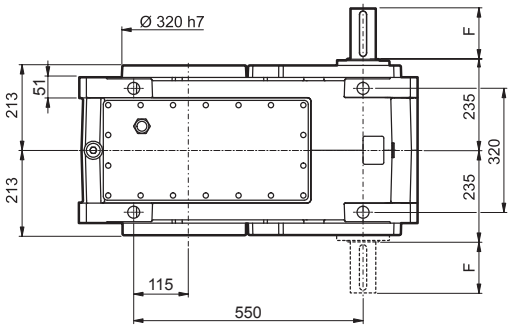
HDP 110

HDP 110 2

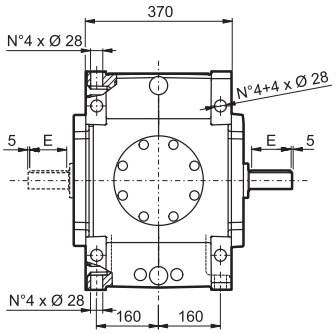


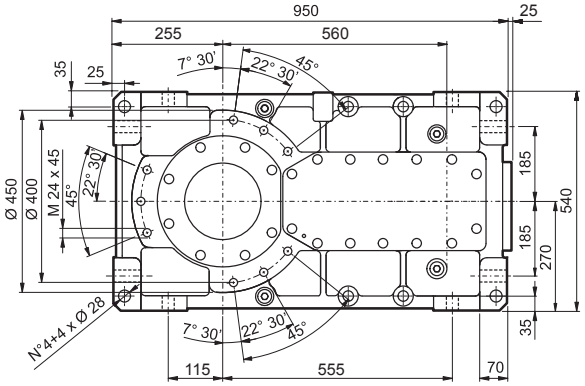


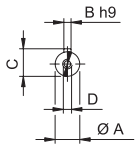


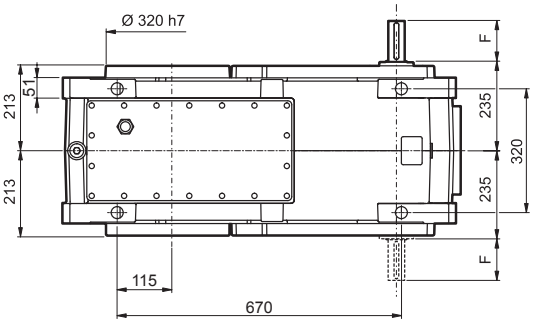


HDP 110 3
HDP 110 4





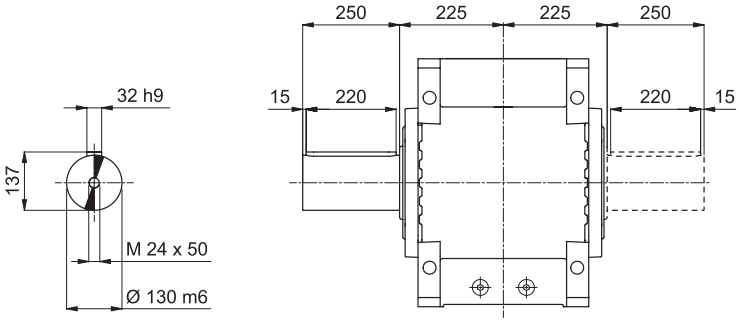




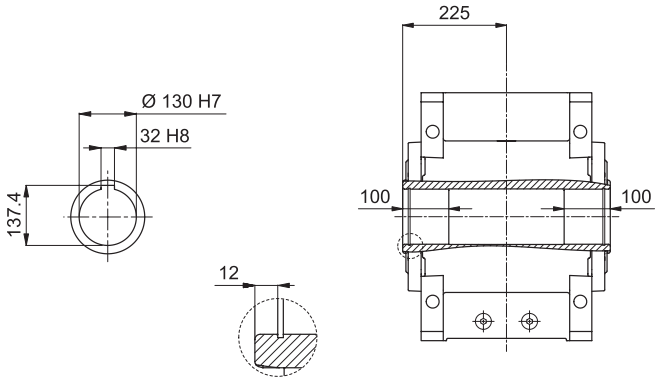
VP	i =	A	B	C	D	E	F	Kg LP
HDP 110 2	**8.1 … 25.0**	60 m6	18	64	M20x42	125	140	670
HDP 110 3	**24.9 … 54.5**	48 k6	14	51.5	M16x36	100	110	740
HDP 110 3	**60.7 … 123.5**	45 k6	14	48.5	M16x36	100	110	740
HDP 110 4	**120.9 … 499.4**	32 k6	10	35	M12x28	70	80	730

HDP 110

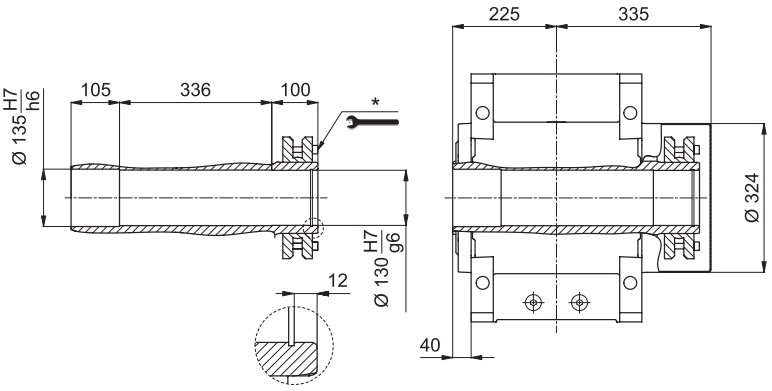
LP



H



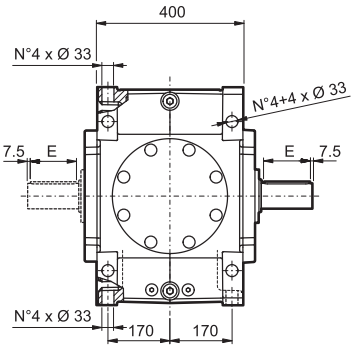
S

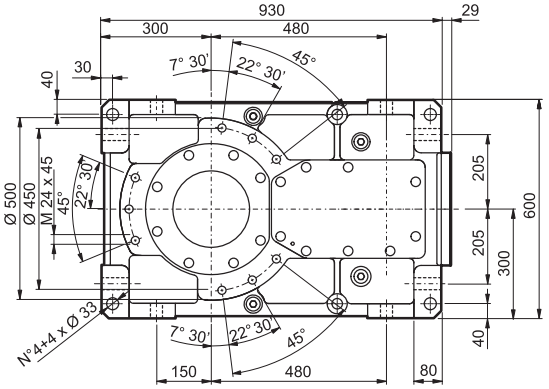


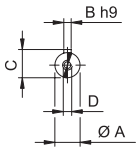
* For correct use, refer to the “OPERATION AND MAINTENANCE MANUAL”.

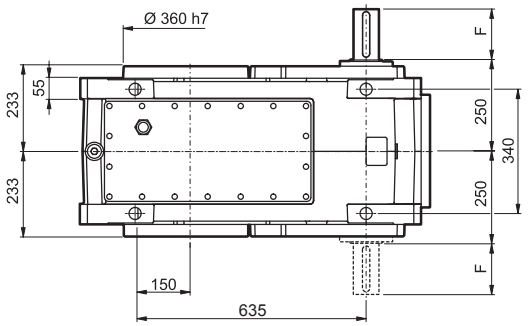
HDP 120

HDP 120 2

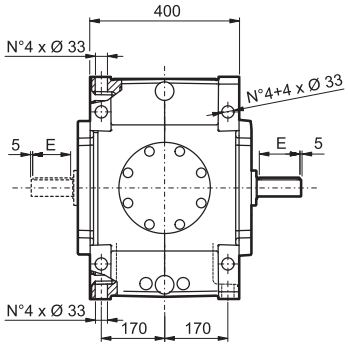


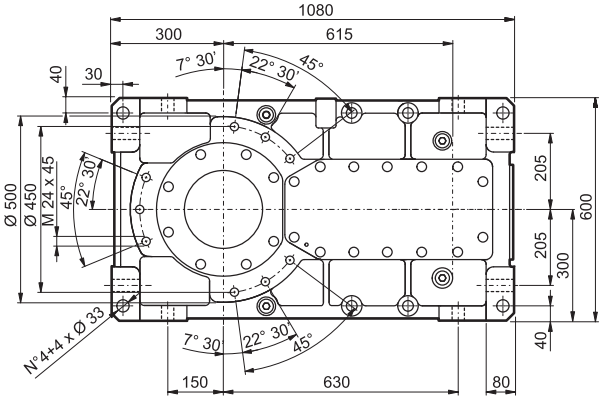


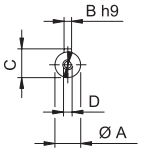


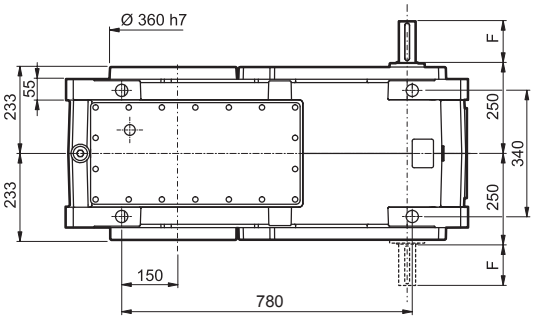


HDP 120 3
HDP 120 4





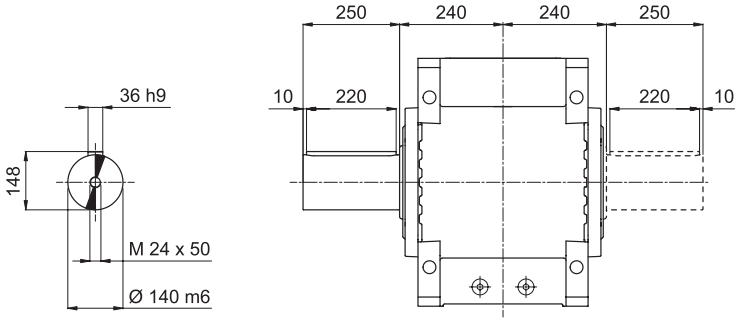




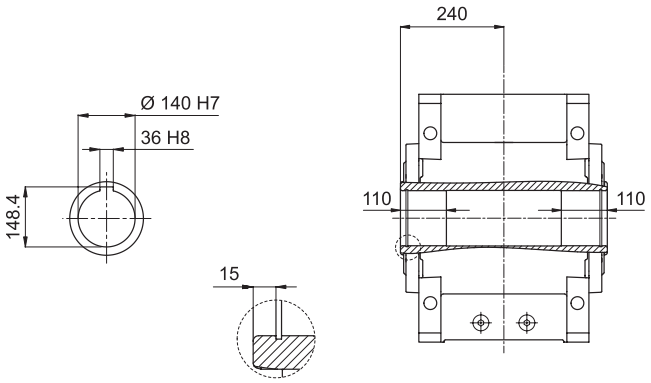
VP	i =	A	B	C	D	E	F	Kg LP
HDP 120 2	**7.9 … 25.4**	70 m6	20	74.5	M20x42	125	140	890
HDP 120 3	**25.8 … 56.1**	48 k6	14	51.5	M16x36	100	110	995
HDP 120 3	**64.3 … 125.2**	45 k6	14	48.5	M16x36	100	110	995
HDP 120 4	**128 … 523.7**	32 k6	10	35	M12x36	70	80	985

HDP 120

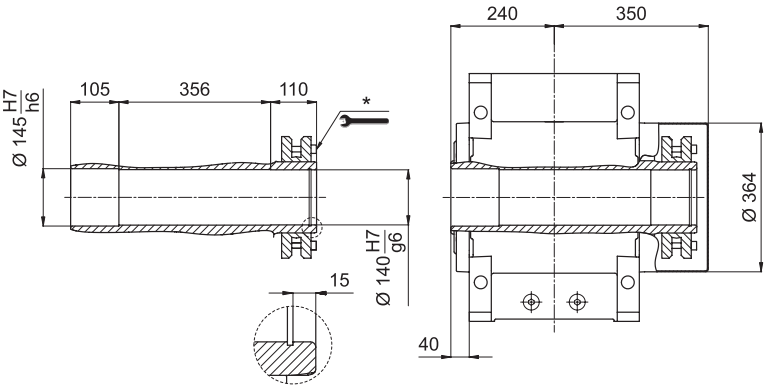
LP



H



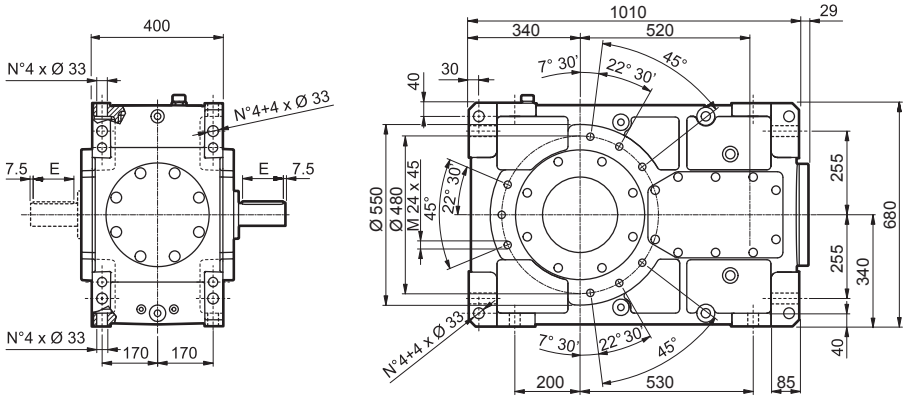
S

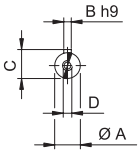


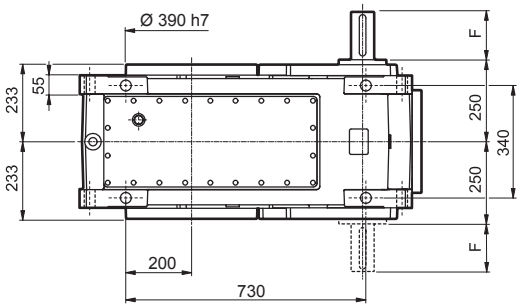
* For correct use, refer to the “OPERATION AND MAINTENANCE MANUAL”.

HDP 125

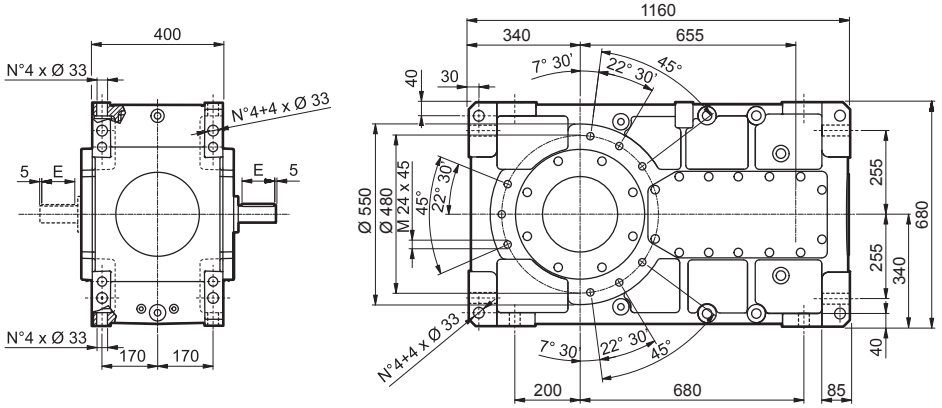
HDP 125 2

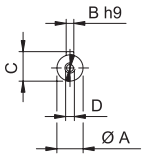


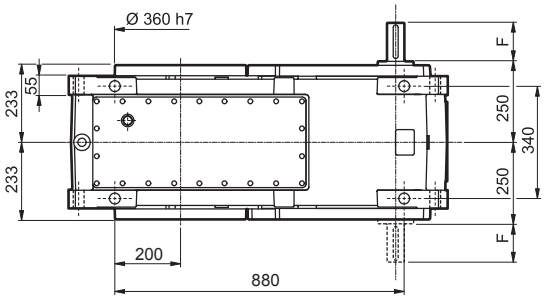




HDP 125 3
HDP 125 4



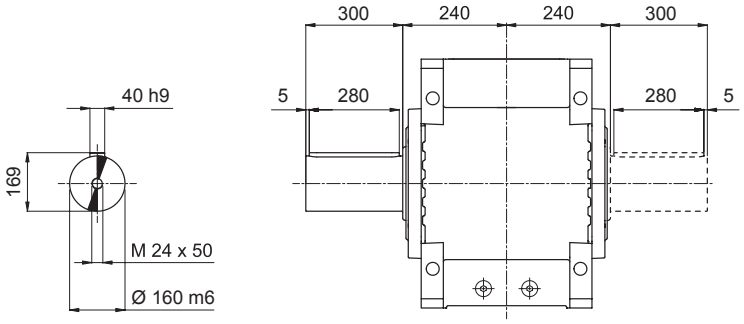




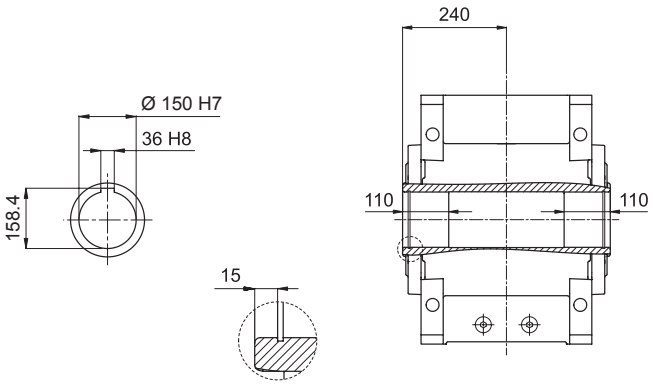
VP	i =	A	B	C	D	E	F	Kg LP
HDP 125 2	**8.9 ... 25.0**	70 m6	20	74.5	M20x42	125	140	1075
HDP 125 3	**29.1 … 62.6**	48 k6	14	51.5	M16x36	100	110	1175
HDP 125 3	**72.5 … 123.6**	45 k6	14	48.5	M16x36	100	110	1175
HDP 125 4	**144.4 … 506.5**	32 k6	10	35	M12x28	70	80	1160

HDP 125

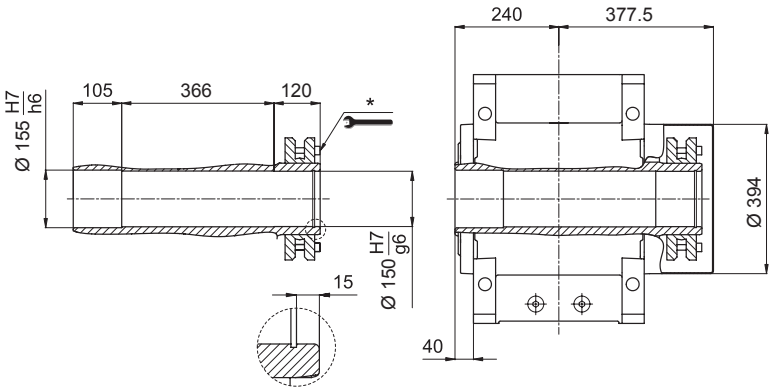
LP



H

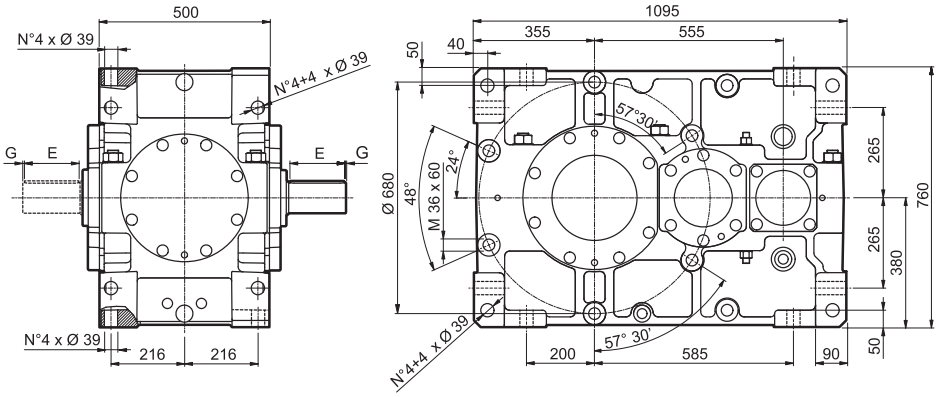


S

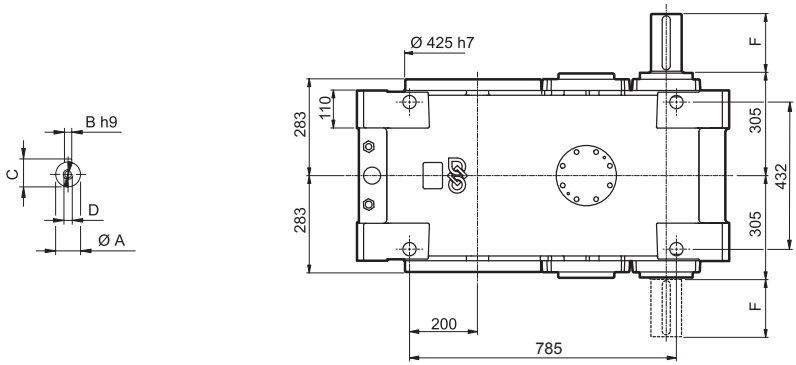


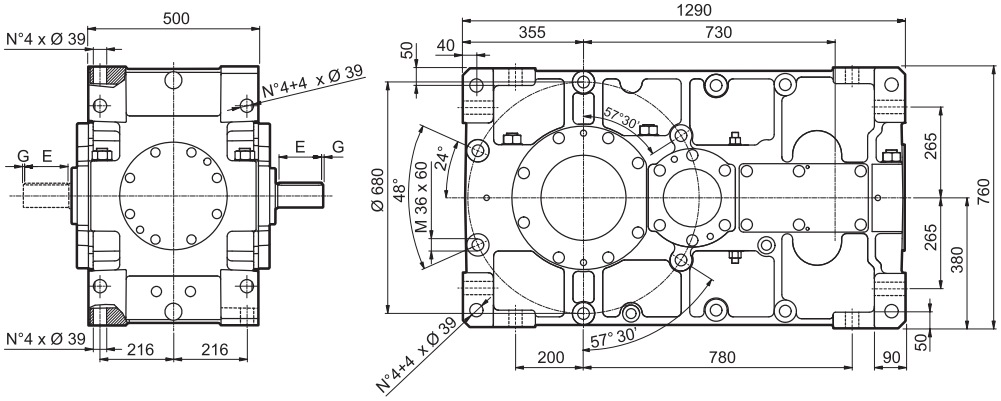
* For correct use, refer to the “OPERATION AND MAINTENANCE MANUAL”.

HDP 130

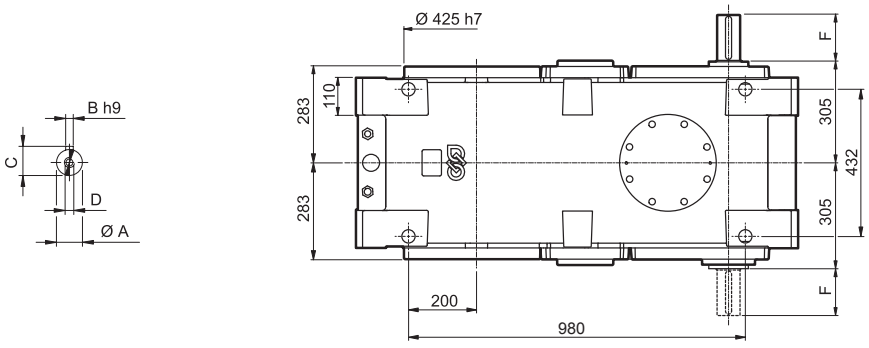


HDP 130 2





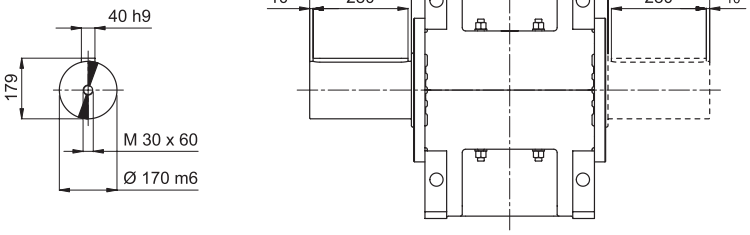
HDP 130 3
HDP 130 4



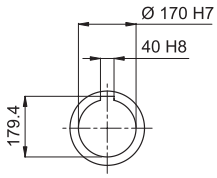
VP	i =	A	B	C	D	E	F	G	Kg LP
HDP 130 2	**7.3 … 12.3**	90 m6	25	95	M24x50	160	170	5	1500
HDP 130 2	**14.1 … 21.7**	70 m6	20	74.5	M20x42	125	140	7.5	1500
HDP 130 3	**21.8 … 48.1**	65 m6	18	69	M20x42	125	140	7.5	1705
HDP 130 3	**56.5 … 108.3**	50 k6	14	53.5	M16x36	100	110	5	1705
HDP 130 4	**111.2 … 237.9**	42 k6	12	45	M16x36	100	110	5	1740
HDP 130 4	**274.5 … 534.5**	32 k6	10	35	M12x28	70	80	5	1740

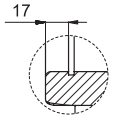
HDP 130

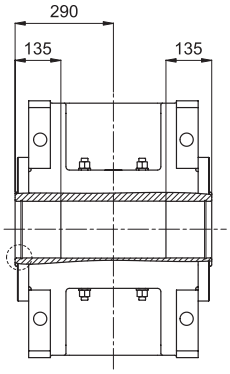
LP



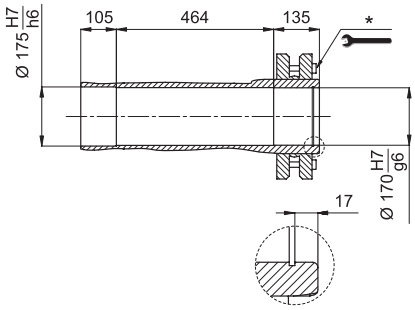
H

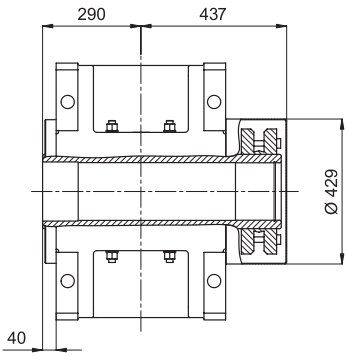






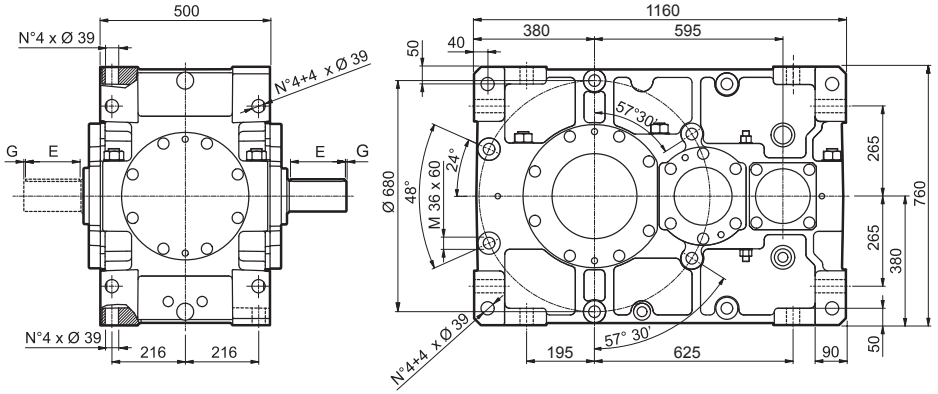
S



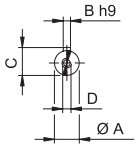


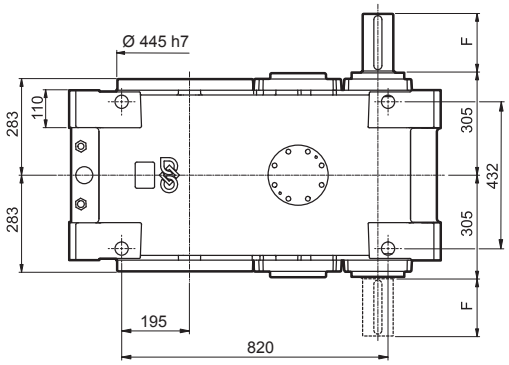
* For correct use, refer to the “OPERATION AND MAINTENANCE MANUAL”.

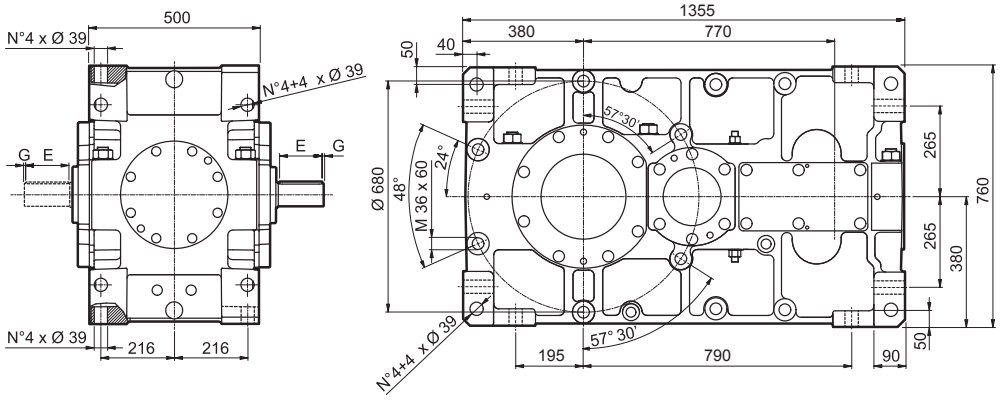
HDP 140



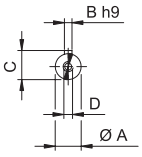
HDP 140 2

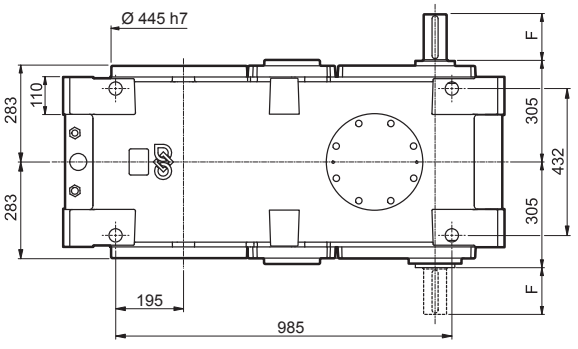






HDP 140 3
HDP 140 4

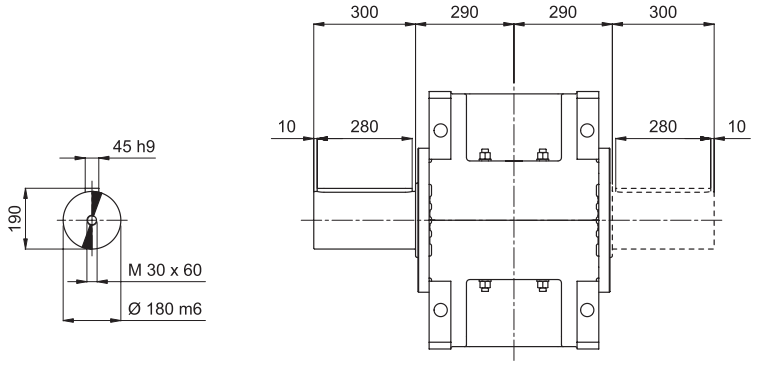




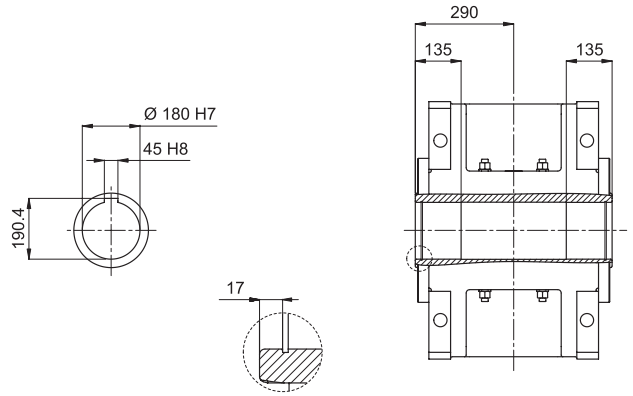
VP	i =	A	B	C	D	E	F	G	Kg LP
HDP 140 2	**8.4 … 14.4**	90 m6	25	95	M24x50	160	170	5	1640
HDP 140 2	**16.3 … 24.9**	70 m6	20	74.5	M20x42	125	140	7.5	1640
HDP 140 3	**25.1 … 56.2**	65 m6	18	69	M20x42	125	140	7.5	1915
HDP 140 3	**65.1 … 124.7**	50 k6	14	53.5	M16x36	100	110	5	1915
HDP 140 4	**141.6 … 277.5**	42 k6	12	45	M16x36	100	110	5	1935
HDP 140 4	**315.9 … 495.3**	32 k6	10	35	M12x28	70	80	5	1935

HDP 140

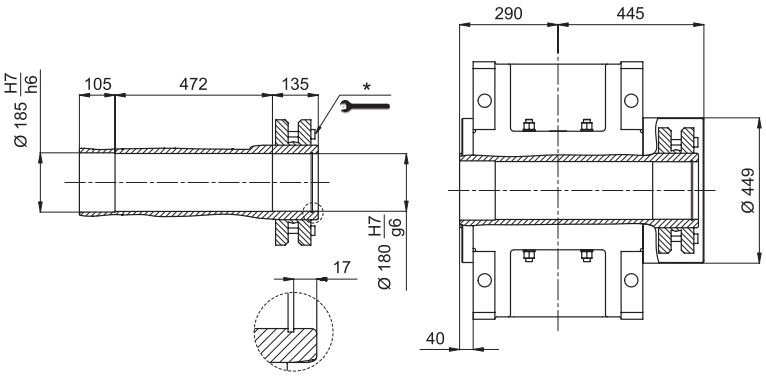
LP



H



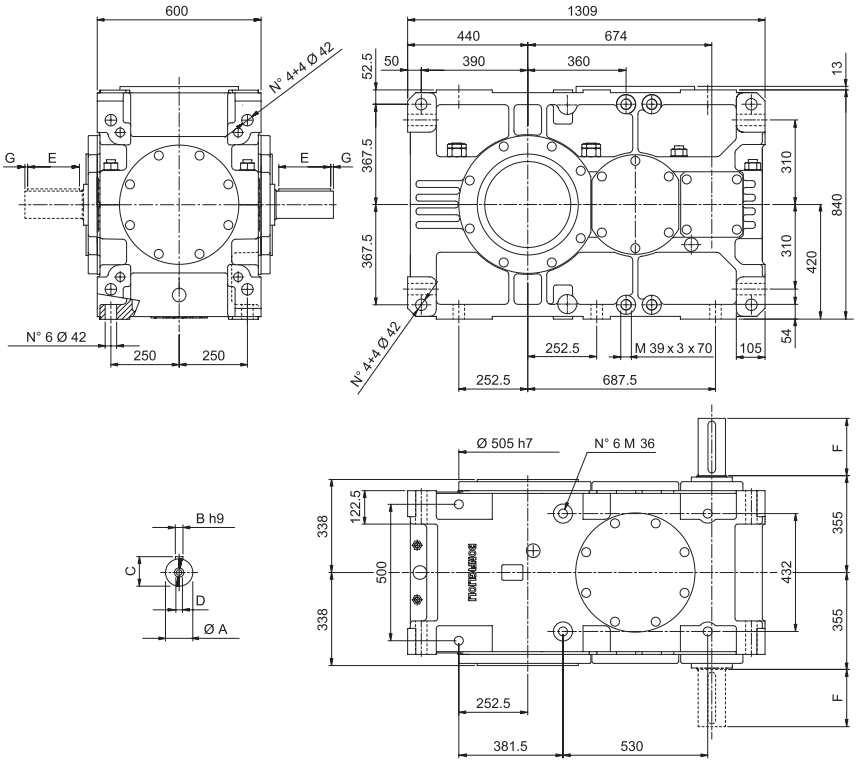
S



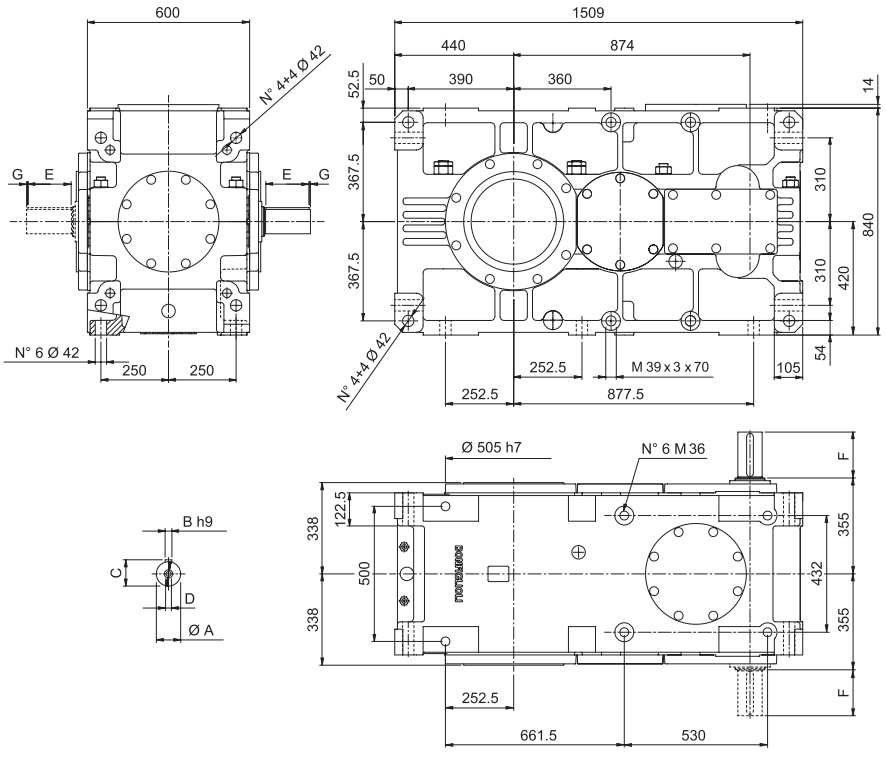
* For correct use, refer to the “OPERATION AND MAINTENANCE MANUAL”.

HDP 150

HDP 150 2



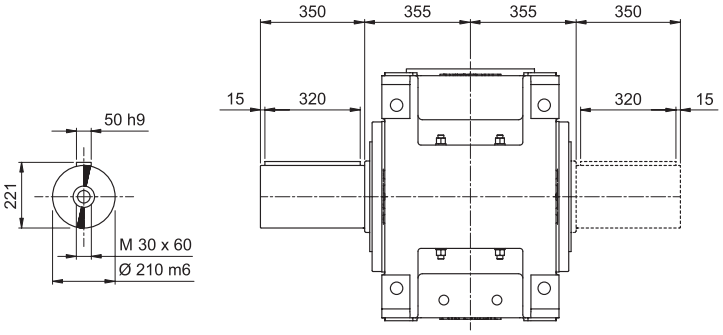
HDP 150 3
HDP 150 4



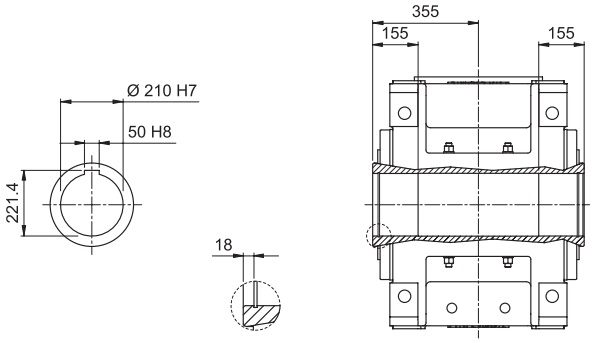
VP	i =	A	B	C	D	E	F	G	Kg LP
HDP 150 2	**7.9 … 14.1**	100 m6	28	106	M24x50	190	210	10	2585
HDP 150 2	**15.4 … 19.6**	90 m6	25	95	M24x50	160	170	5	2585
HDP 150 3	**21.5 … 38.1**	90 m6	25	95	M24x50	160	170	5	2835
HDP 150 3	**43.5 … 77.0**	70 m6	20	74.5	M20x42	125	140	7.5	2835
HDP 150 4	**89.0 … 157.8**	55 m6	16	59	M20x42	90	110	10	2870
HDP 150 4	**170.9 … 303.1**	45 k6	14	48.5	M16x36	100	110	5	2870

HDP 150

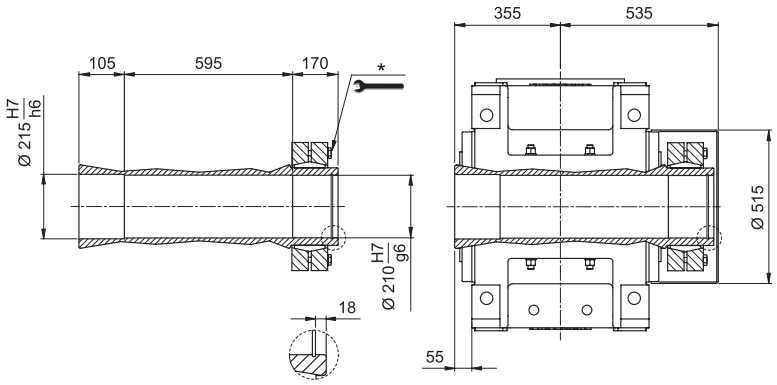
LP



H



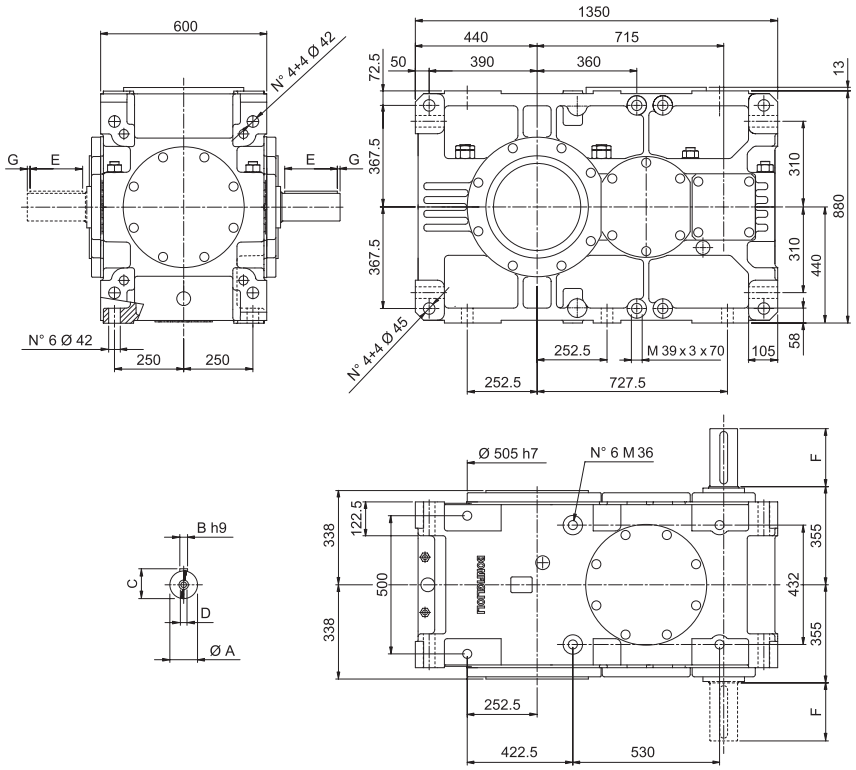
S



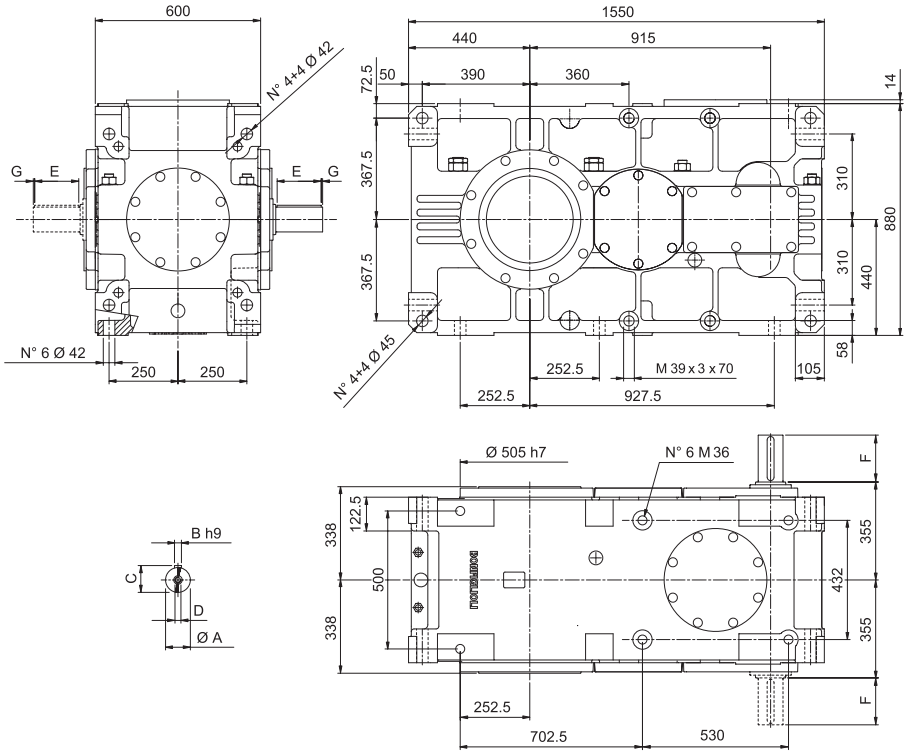
* For correct use, refer to the “OPERATION AND MAINTENANCE MANUAL”.

HDP 160

HDP 160 2



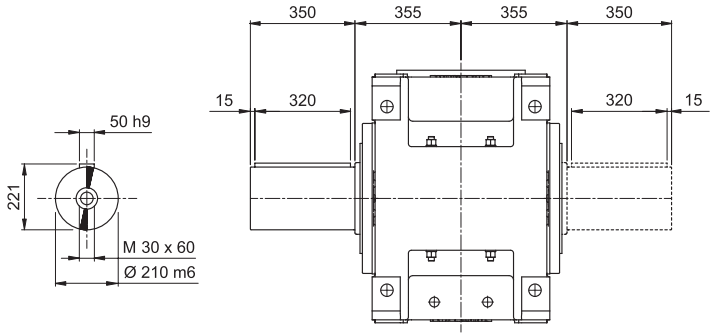
HDP 160 3
HDP 160 4



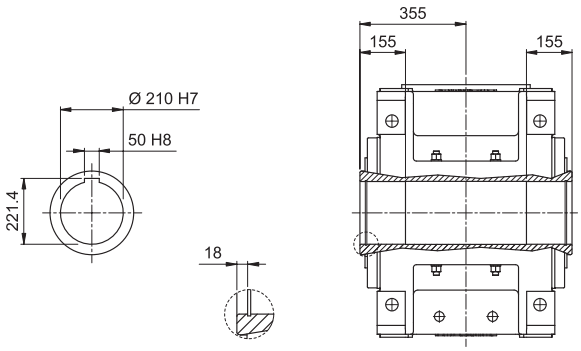
VP	i =	A	B	C	D	E	F	G	Kg LP
HDP 160 2	**9.0 … 15.9**	100 m6	28	106	M24x50	190	210	10	2860
HDP 160 2	**17.5 … 22.1**	90 m6	25	95	M24x50	160	170	5	2860
HDP 160 3	**24.4 … 43.1**	90 m6	25	95	M24x50	160	170	5	3120
HDP 160 3	**49.4 … 87.0**	70 m6	20	74.5	M20x42	125	140	7.5	3120
HDP 160 4	**101.1 … 178.1**	55 m6	16	59	M20x42	90	110	10	3145
HDP 160 4	**194.1 … 342.2**	45 k6	14	48.5	M16x36	100	110	5	3145

HDP 160

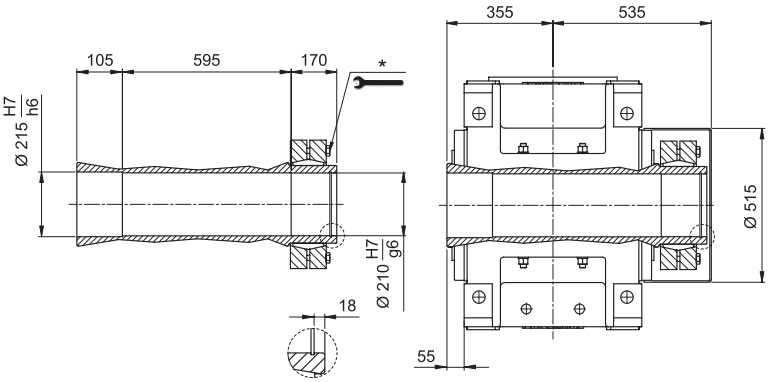
LP



H

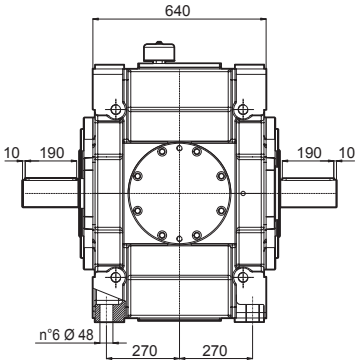


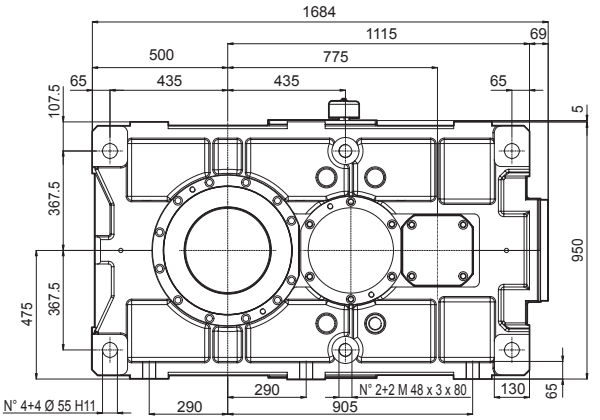
S



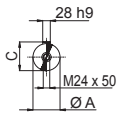
* For correct use, refer to the “OPERATION AND MAINTENANCE MANUAL”.

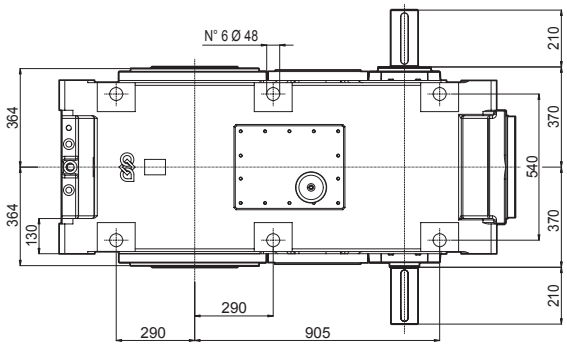
HDP 170



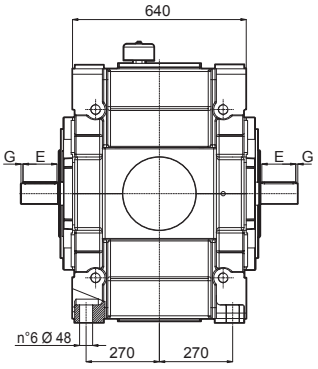


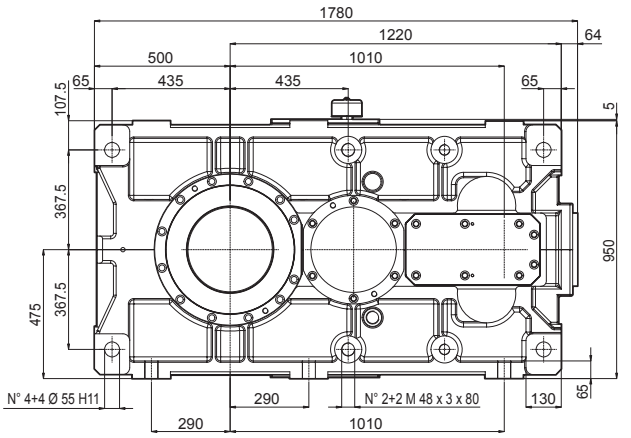
HDP 170 2



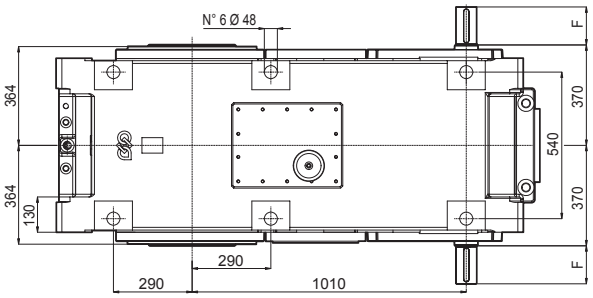


VP	i =	A	C	Kg LP
HDP 170 2	**7.8 ... 14.2**	110 m6	116	3495
HDP 170 2	**15.4 ... 19.3**	100 m6	106	3495





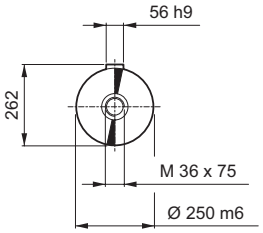
HDP 170 3
HDP 170 4

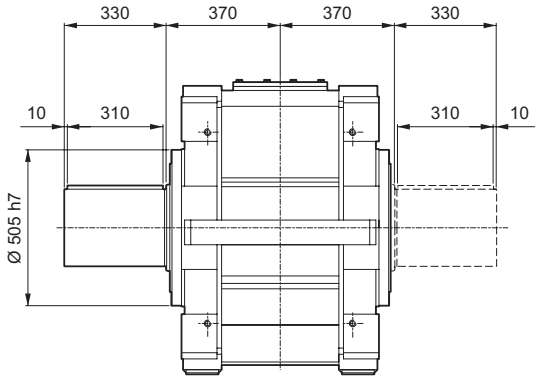


VP	i =	A	B	C	D	E	F	G	Kg LP
HDP 170 3	**23.2 ... 39.7**	90 m6	25	95	M24x50	160	170	5	3765
HDP 170 3	**45.1 ... 77.2**	75 m6	20	79.5	M20x42	125	140	7.5	3765
HDP 170 4	**92.7 ... 158.8**	55 m6	16	59	M20x42	90	110	10	3795
HDP 170 4	**177.4 ... 303.8**	50 k6	14	53.5	M16x36	100	110	5	3795

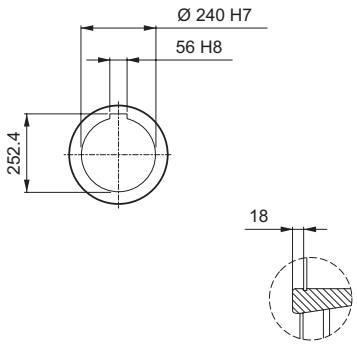
HDP 170

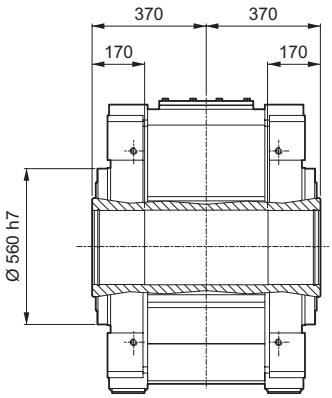
LP



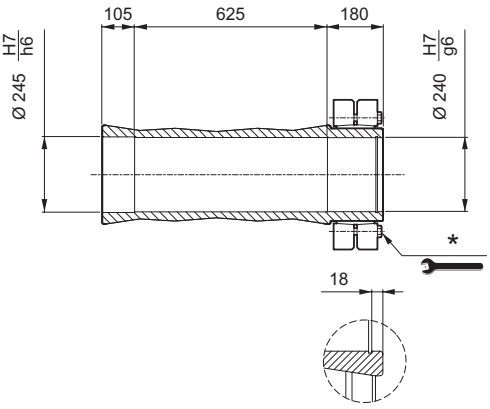


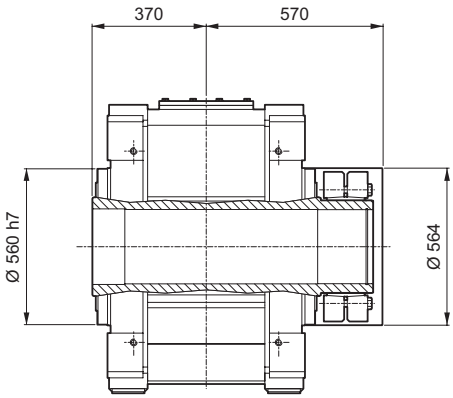
H





S



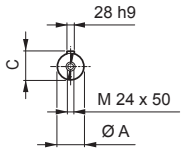


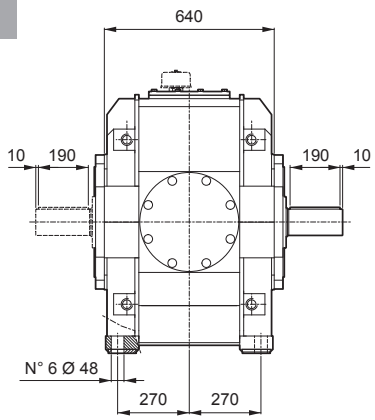
* For correct use, refer to the “OPERATION AND MAINTENANCE MANUAL”.

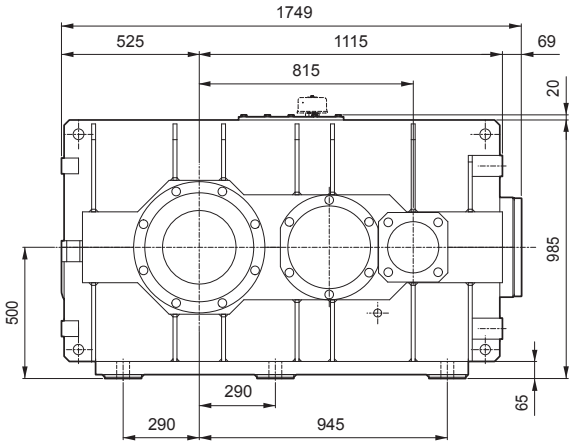
HDP 180

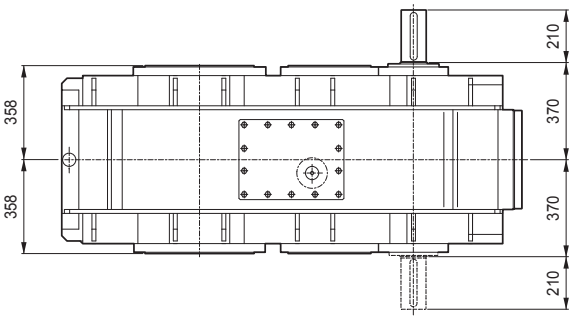
HDP 180 2

B3



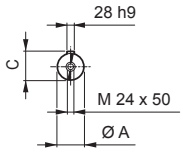


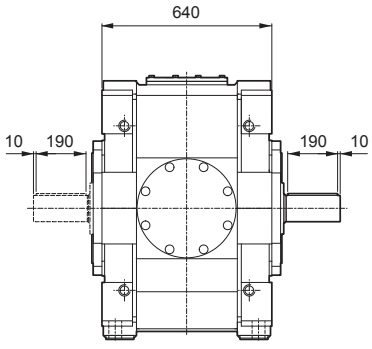


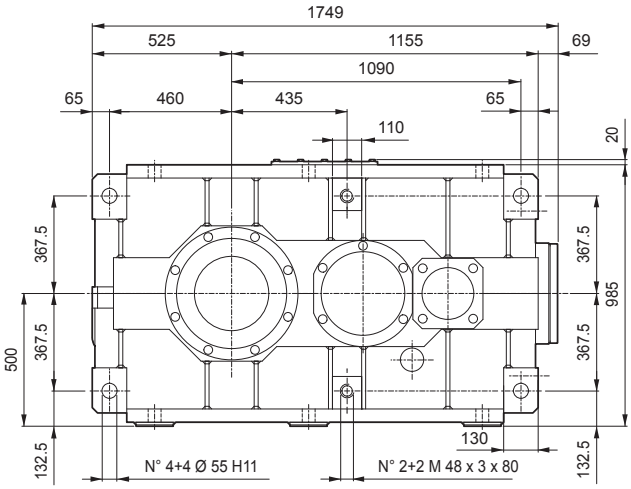


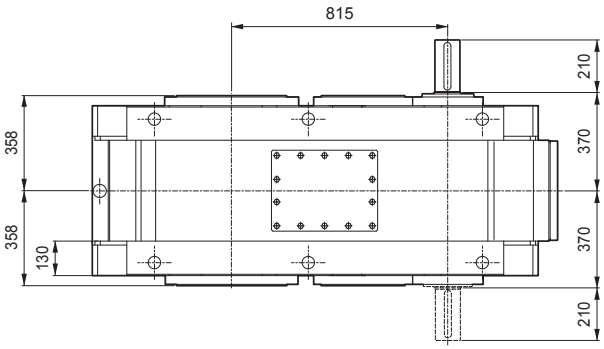
HDP 180 2

V5







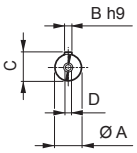


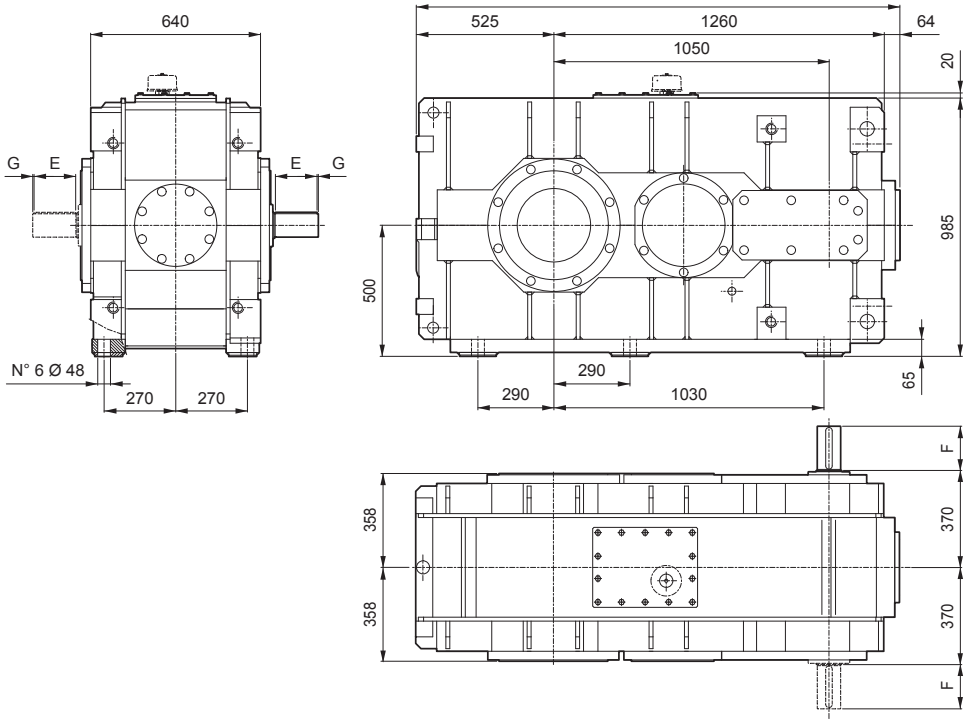
VP	i =	A	C	Kg LP
HDP 180 2	**8.7 ... 15.7**	110 m6	116	3640
HDP 180 2	**17.1 ... 21.4**	100 m6	106	3640

HDP 180

HDP 180 3/4

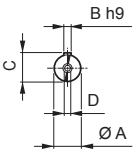
B3

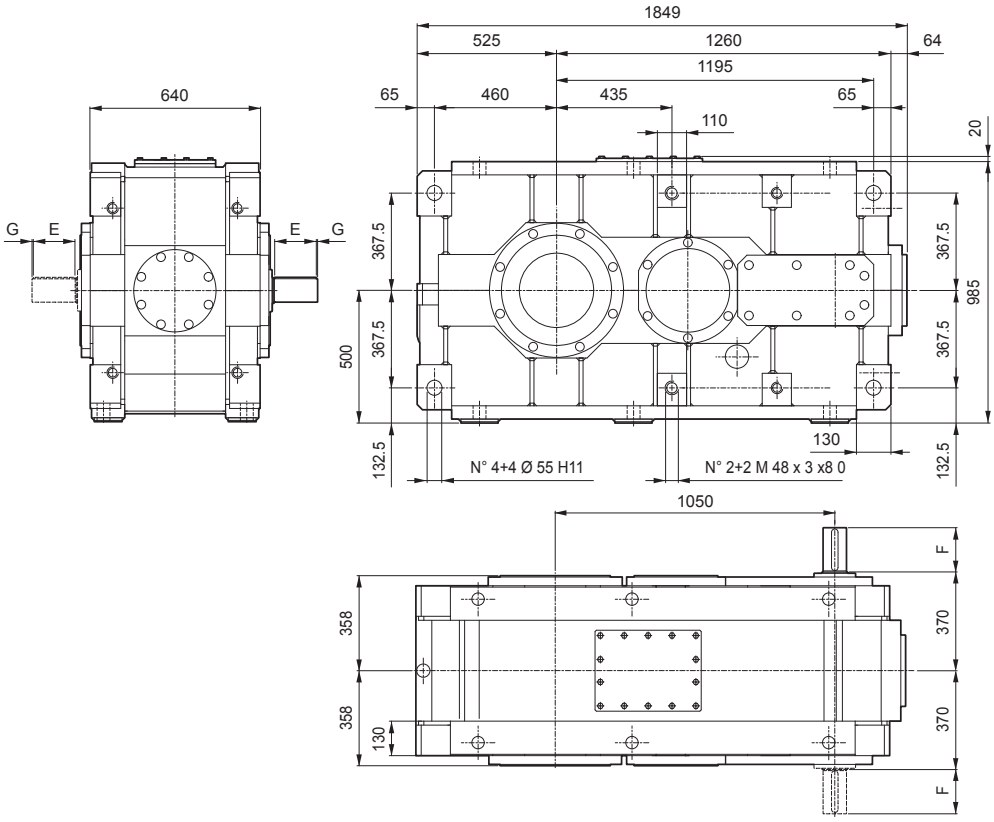




HDP 180 3/4

V5

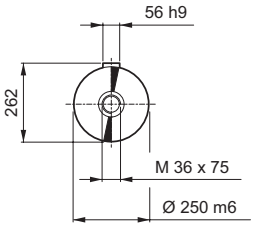


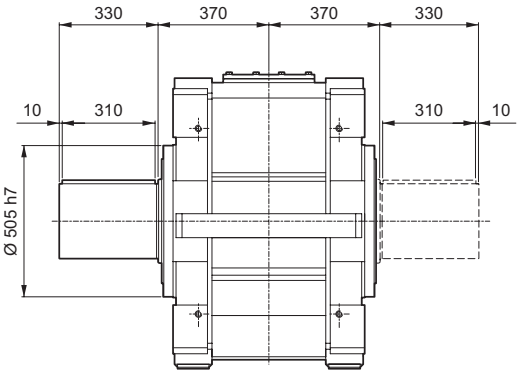


VP	i =	A	B	C	D	E	F	G	Kg LP
HDP 180 3	**25.8 ... 43.9**	90 m6	25	95	M24x50	160	170	5	3860
HDP 180 3	**50.1 ... 85.4**	75 m6	20	79.5	M20x42	125	140	7.5	3860
HDP 180 4	**103.0 ... 175.6**	55 m6	16	59	M20x42	90	110	10	3890
HDP 180 4	**197.2 ... 336.1**	50 k6	14	53.5	M16x36	100	110	5	3890

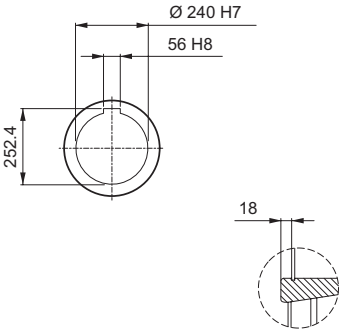
HDP 180

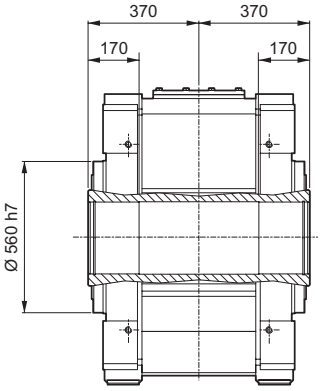
LP



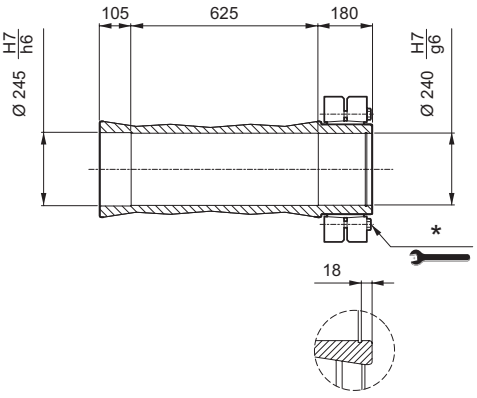


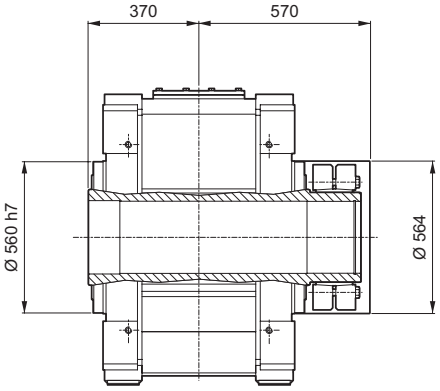
H





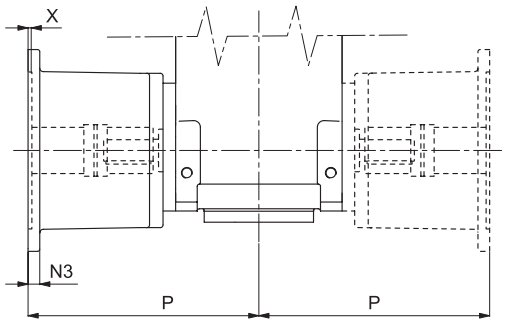
S

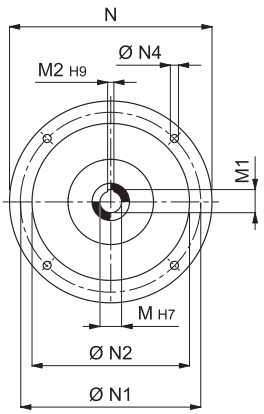




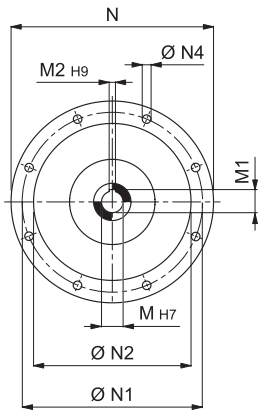
* For correct use, refer to the “OPERATION AND MAINTENANCE MANUAL”.

20.1 MOTOR MOUNTING WITH BELL HOUSING AND FLEXIBLE COUPLING



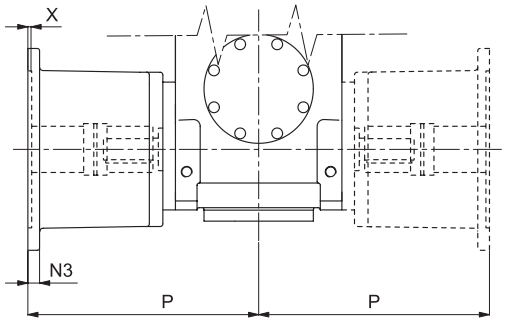


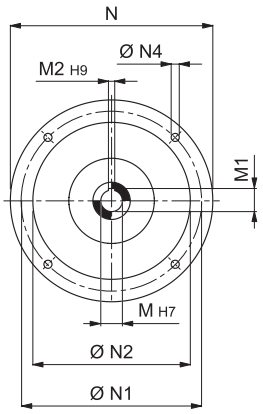
Ø N1 ≤ 350



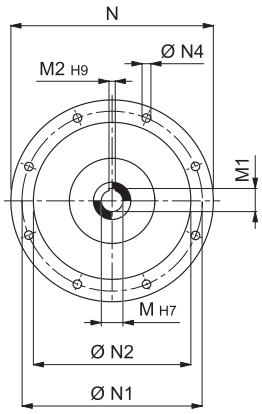
Ø N1 ≥ 400

	M	M1	M2	N	N1	N2	N3	N4	X	P
HDP 60_132	38	41.3	10	300	265	230	16	14	5	311
HDP 60_160	42	45.3	12	350	300	250	23	18	6	341
HDP 60_180	48	51.8	14	350	300	250	23	18	6	341
HDP 60_200	55	59.3	16	400	350	300	—	M16x23	7	366
HDP 60_225	60	64.4	18	450	400	350	25	18	7	374
HDP 70_132	38	41.3	10	300	265	230	16	14	5	311
HDP 70_160	42	45.3	12	350	300	250	23	18	6	341
HDP 70_180	48	51.8	14	350	300	250	23	18	6	341
HDP 70_200	55	59.3	16	400	350	300	—	M16x23	7	366
HDP 70_225	60	64.4	18	450	400	350	25	18	7	374
HDP 80_160	42	45.3	12	350	300	250	23	18	6	371
HDP 80_180	48	51.8	14	350	300	250	23	18	6	371
HDP 80_200	55	59.3	16	400	350	300	—	M16x23	7	396
HDP 80_225	60	64.4	18	450	400	350	25	18	7	432
HDP 80_250	65	69.4	18	550	500	450	30	18	6	462
HDP 80_280	75	79.9	20	550	500	450	30	18	6	462
HDP 90_160	42	45.3	12	350	300	250	23	18	6	427
HDP 90_180	48	51.8	14	350	300	250	23	18	6	427
HDP 90_200	55	59.3	16	400	350	300	—	M16x23	7	452
HDP 90_225	60	64.4	18	450	400	350	25	18	7	457
HDP 90_250	65	69.4	18	550	500	450	30	18	6	487
HDP 90_280	75	79.9	20	550	500	450	30	18	6	487



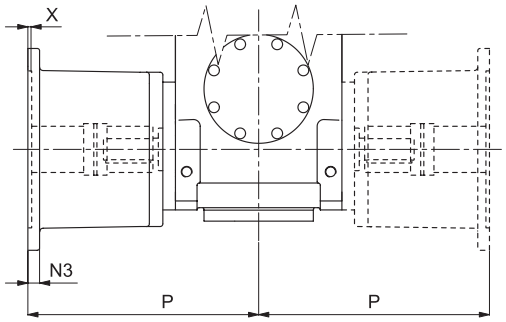


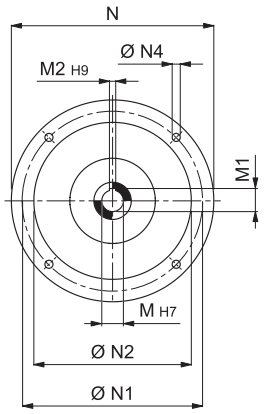
Ø N1 ≤ 350



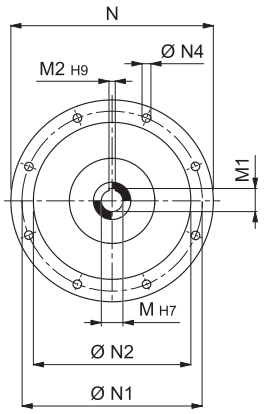
Ø N1 ≥ 400

	M	M1	M2	N	N1	N2	N3	N4	X	P
HDP 100_112	28	31.3	8	250	215	180	15	14	5	395
HDP 100_132	38	41.3	10	300	265	230	—	M12x20	6	415
HDP 100_160	42	45.3	12	350	300	250	23	18	6	481
HDP 100_180	48	51.8	14	350	300	250	23	18	6	481
HDP 100_200	55	59.3	16	400	350	300	—	M16x23	7	506
HDP 100_225	60	64.4	18	450	400	350	26	18	7	513
HDP 100_250	65	69.4	18	550	500	450	30	18	6	543
HDP 100_280	75	79.9	20	550	500	450	30	18	6	543
HDP 100_315	80	85.4	22	660	600	550	22	22	10	579.5
HDP 110_112	28	31.3	8	250	215	180	15	14	5	395
HDP 110_132	38	41.3	10	300	265	230	—	M12x20	6	415
HDP 110_160	42	45.3	12	350	300	250	23	18	6	481
HDP 110_180	48	51.8	14	350	300	250	23	18	6	481
HDP 110_200	55	59.3	16	400	350	300	—	M16x23	7	506
HDP 110_225	60	64.4	18	450	400	350	26	18	7	513
HDP 110_250	65	69.4	18	550	500	450	30	18	6	543
HDP 110_280	75	79.9	20	550	500	450	30	18	6	543
HDP 110_315	80	85.4	22	660	600	550	22	22	10	579.5
HDP 120_132	38	41.3	10	300	265	230	—	M12x20	6	430
HDP 120_160	42	45.3	12	350	300	250	23	18	6	496
HDP 120_180	48	51.8	14	350	300	250	23	18	6	496
HDP 120_200	55	59.3	16	400	350	300	—	M16x23	7	521
HDP 120_225	60	64.4	18	450	400	350	26	18	7	528
HDP 120_250	65	69.4	18	550	500	450	30	18	6	558
HDP 120_280	75	79.9	20	550	500	450	30	18	6	558
HDP 120_315	80	85.4	22	660	600	550	22	22	10	594.5
HDP 125_132	38	41.3	10	300	265	230	—	M12x20	6	430
HDP 125_160	42	45.3	12	350	300	250	23	18	6	496
HDP 125_180	48	51.8	14	350	300	250	23	18	6	496
HDP 125_200	55	59.3	16	400	350	300	—	M16x23	7	521
HDP 125_225	60	64.4	18	450	400	350	26	18	7	528
HDP 125_250	65	69.4	18	550	500	450	30	18	6	558
HDP 125_280	75	79.9	20	550	500	450	30	18	6	558
HDP 125_315	80	85.4	22	660	600	550	22	22	10	594.5





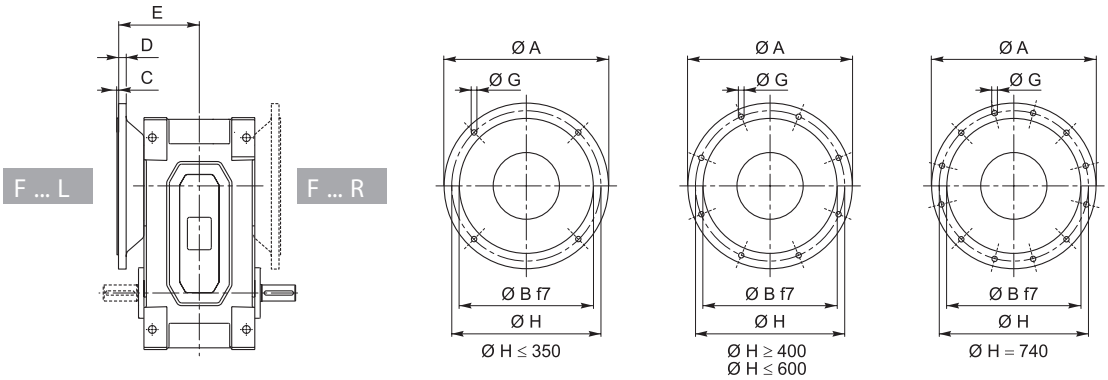
Ø N1 ≤ 350



Ø N1 ≥ 400

	M	M1	M2	N	N1	N2	N3	N4	X	P
HDP 130_160	42	45.3	12	350	300	250	23	18	6	551
HDP 130_180	48	51.8	14	350	300	250	23	18	6	551
HDP 130_200	55	59.3	16	400	350	300	—	M16x23	7	576
HDP 130_225	60	64.4	18	450	400	350	26	18	7	583
HDP 130_250	65	69.4	18	550	500	450	30	18	6	613
HDP 130_280	75	79.9	20	550	500	450	30	18	6	613
HDP 130_315	80	85.4	22	660	600	550	22	22	10	649.5
HDP 140_160	42	45.3	12	350	300	250	23	18	6	551
HDP 140_180	48	51.8	14	350	300	250	23	18	6	551
HDP 140_200	55	59.3	16	400	350	300	—	M16x23	7	576
HDP 140_225	60	64.4	18	450	400	350	26	18	7	583
HDP 140_250	65	69.4	18	550	500	450	30	18	6	613
HDP 140_280	75	79.9	20	550	500	450	30	18	6	613
HDP 140_315	80	85.4	22	660	600	550	22	22	10	649.5
HDP 150_160	42	45.3	12	350	300	250	23	18	6	601
HDP 150_180	48	51.8	14	350	300	250	23	18	6	601
HDP 150_200	55	59.3	16	400	350	300	—	M16x23	7	626
HDP 150_225	60	64.4	18	450	400	350	26	18	7	633
HDP 150_250	65	69.4	18	550	500	450	30	18	6	663
HDP 150_280	75	79.9	20	550	500	450	30	18	6	663
HDP 150_315	80	85.4	22	660	600	550	22	22	10	699.5
HDP 160_160	42	45.3	12	350	300	250	23	18	6	601
HDP 160_180	48	51.8	14	350	300	250	23	18	6	601
HDP 160_200	55	59.3	16	400	350	300	—	M16x23	7	626
HDP 160_225	60	64.4	18	450	400	350	26	18	7	633
HDP 160_250	65	69.4	18	550	500	450	30	18	6	663
HDP 160_280	75	79.9	20	550	500	450	30	18	6	663
HDP 160_315	80	85.4	22	660	600	550	22	22	10	699.5
HDP 170	BONFIGLIOLI TECHNICAL SERVICE									
HDP 180										

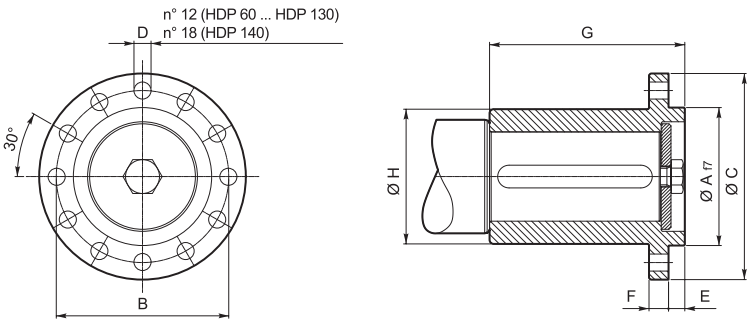
20.2 MOUNTING FLANGE



		A	B	C	D	E	G	H
HDP 60	**F350_**	350	250	5	18	187.5	18	300
	F400_	400	300	5	20	187.5	18	350
HDP 70	**F450_**	450	350	5	22	210	18	400
	F550_	550	450	5	24	210	18	500
HDP 80	**F450_**	450	350	5	22	240	18	400
	F550_	550	450	5	24	240	18	500
HDP 90	**F550_**	550	450	5	24	260	18	500
HDP 100	**F660_**	660	550	7	30	335	22	600
HDP 110	**F660_**	660	550	7	30	335	22	600
HDP 120	**F660_**	660	550	7	30	355	26	600
HDP 125	**F730_**	730	580	7	35	360	26	660
HDP 130	**F800_**	800	680	7	40	460	26	740
HDP 140	**F800_**	800	680	7	40	460	26	740
HDP 150		BONFIGLIOLI TECHNICAL SERVICE						
HDP 160								
HDP 170								
HDP 180								

20.3 MANIFOLD FLANGE

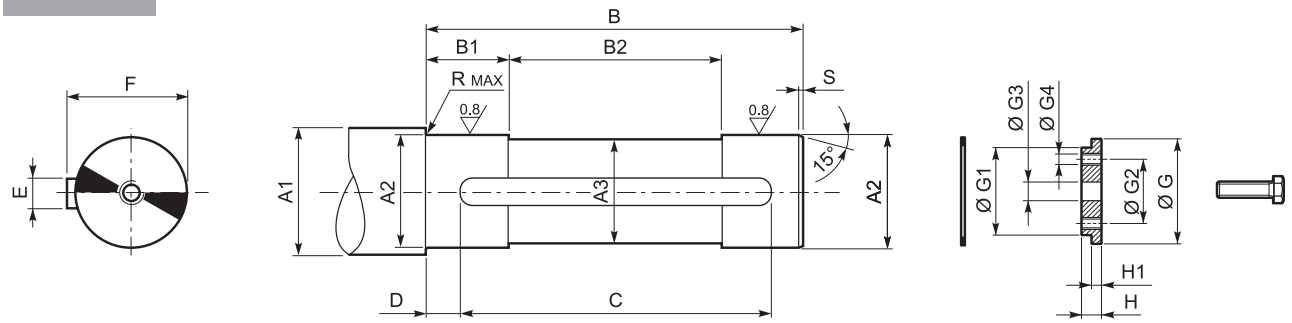
Available for shaft arrangement: LL, LR, LD, RL, RR and RD, all featuring a single output shaft extension.



	A	B	C	D	E	F	G	H
HDP 60_ FM	125	175	208	19	14	21	165	135
HDP 70_ FM	125	175	208	19	14	21	195	135
HDP 80_ FM	170	212	254	21	20	24	240	166
HDP 90_ FM	170	212	254	21	20	24	240	166
HDP 100_ FM	200	260	309	25	19	31	244	200
HDP 110_ FM	200	260	309	25	19	31	289	200
HDP 120_ FM	200	260	309	25	19	31	289	200
HDP 125_ FM	220	320	384	32	19	31	344	240
HDP 130_ FM	220	320	384	32	19	31	344	250
HDP 140_ FM	250	380	450	32	19	40	344	310
HDP 150	BONFIGLIOLI TECHNICAL SERVICE							
HDP 160								
HDP 170								
HDP 180								

20.4 CUSTOMER'S SHAFT

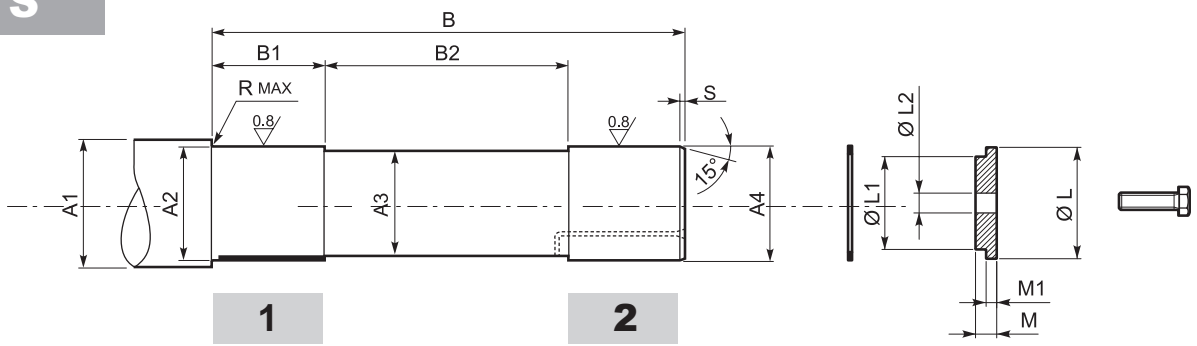
H



	A1	A2	A3	B	B1	B2	C	D	E	F	R	S	UNI6604
HDP 60	≥ 78	70 h6	69	283	56	172	220	30	20 h9	74.5	2.5	2	20x12x220A
HDP 70	≥ 89	80 h6	79	283	78	127	220	30	22 h9	85	2.5	2.5	22x14x220A
HDP 80	≥ 104	95 h6	94	338	73	192	280	30	25 h9	100	2.5	2.5	25x14x280A
HDP 90	≥ 121	110 h6	109	378	88	202	320	30	28 h9	116	2.5	2.5	28x16x320A
HDP 100	≥ 133	120 h6	119.5	420	100	250	360	30	32 h9	127	3	2.5	32x18x360A
HDP 110	≥ 143	130 h6	129.5	420	100	250	360	30	32 h9	137	3	2.5	32x18x360A
HDP 120	≥ 153	140 h6	139.5	444	110	260	400	40	36 h9	148	3	2.5	36x20x400A
HDP 125	≥ 163	150 h6	149.5	444	110	260	400	40	36 h9	158	3	2.5	36x20x400A
HDP 130	≥ 183	170 h6	169.5	540	135	310	400	80	40 h9	179	3	2.5	40x22x400A
HDP 140	≥ 193	180 h6	179.5	540	135	310	400	80	45 h9	190	3	2.5	45x25x400A
HDP 150	≥ 223	210 h6	209.5	667	155	400	500	100	50 h9	221	3	3	50x28x450B
HDP 160	≥ 223	210 h6	209.5	667	155	400	500	100	50 h9	221	3	3	50x28x450B
HDP 170	≥ 255	240 h6	239.5	697	170	400	506	100	56 h9	252	3	3	56x32x450B
HDP 180	BONFIGLIOLI TECHNICAL SERVICE												

	Out of scope for supply								
	UNI7437	G	G1	G2	G3	G4	H	H1	UNI5739
HDP 60	—	90	70 d9	—	22	—	10	8.5	M20x50
HDP 70	—	100	80 d9	—	22	—	10	8.5	M20x50
HDP 80	—	115	95 d9	—	26	—	15	13.5	M24x60
HDP 90	—	130	110 d9	—	26	—	15	13.5	M24x60
HDP 100	120x4	120 d9	96	64	26	M16	24	12	M24x70
HDP 110	130x4	130 d9	105	69	26	M20	24	12	M24x70
HDP 120	140x4	140 d9	115	79	26	M20	30	15	M24x80
HDP 125	150x4	150 d9	122	86	26	M20	30	15	M24x80
HDP 130	170x4	170 d9	142	102	33	M24	34	17	M30x90
HDP 140	180x4	180 d9	150	110	33	M24	34	17	M30x90
HDP 150	210x5	210 d9	178	140	33	M24	36	18	M30x100
HDP 160	210x5	210 d9	178	140	33	M24	36	18	M30x100
HDP 170	240x5	240 d9	208	160	39	M24	36	18	M36x110
HDP 180	BONFIGLIOLI TECHNICAL SERVICE								

S



	A1	A2	A3	A4	B	B1	B2	R	S
HDP 60	≥ 90	72 h7	69	70 g6	328	59	194	2.5	2.5
HDP 70	≥ 104	82 h7	79	80 g6	332	77	174	2.5	2.5
HDP 80	≥ 119	97 h7	94	95 g6	398	95	205	2.5	2.5
HDP 90	≥ 136	112 h7	109	110 g6	440	87	273	2.5	2.5
HDP 100	≥ 138	125 h6	119.5	120 g6	517	104	328	3	2.5
HDP 110	≥ 148	135 h6	129.5	130 g6	523	104	334	3	2.5
HDP 120	≥ 158	145 h6	139.5	140 g6	550	104	354	3	2.5
HDP 125	≥ 168	155 h6	149.5	150 g6	570	104	363	3	2.5
HDP 130	≥ 188	175 h6	169.5	170 g6	681	104	462	3	2.5
HDP 140	≥ 198	185 h6	179.5	180 g6	689	104	470	3	2.5
HDP 150	≥ 228	215 h6	209.5	210 g6	839	104	593	3	3
HDP 160	≥ 228	215 h6	209.5	210 g6	839	104	593	3	3
HDP 170	BONFIGLIOLI TECHNICAL SERVICE								
HDP 180									

	Out of scope for supply						
	UNI7437	L	L1	L2	M	M1	UNI5739
HDP 60	—	90	70 d9	22	10	8.5	M20x50
HDP 70	—	100	80 d9	22	10	8.5	M20x50
HDP 80	—	115	95 d9	26	15	13.5	M24x60
HDP 90	—	130	110 d9	26	15	13.5	M24x60
HDP 100	120x4	120 d9	96	26	16	12	M24x65
HDP 110	130x4	130 d9	105	26	16	12	M24x65
HDP 120	140x4	140 d9	115	26	19	15	M24x70
HDP 125	150x4	150 d9	122	26	19	15	M24x70
HDP 130	170x4	170 d9	142	33	21	17	M30x80
HDP 140	180x4	180 d9	150	33	21	17	M30x80
HDP 150	210x5	210 d9	178	33	29	18	M30x90
HDP 160	210x5	210 d9	178	33	29	18	M30x90
HDP 170	BONFIGLIOLI TECHNICAL SERVICE						
HDP 180							

To facilitate part removal in the area of the cylindrical guide opposite the shrink disc, install a machine pivot to which a self-lubricating cylindrical bushing (1) can be fitted and/or with a hole big enough to allow application of a rust treatment (2).
In the presence of external thrust loads, vibration, safety problems, requirements for enhanced reliability, or unfavourable mounting positions (e.g. V5 mounting positions, output shaft directed downwards), install suitable devices to secure the shaft in an axial direction and prevent accidental decoupling.

PARALLEL SHAFT GEAR UNIT SERIES HDP ATEX CONFIGURATION

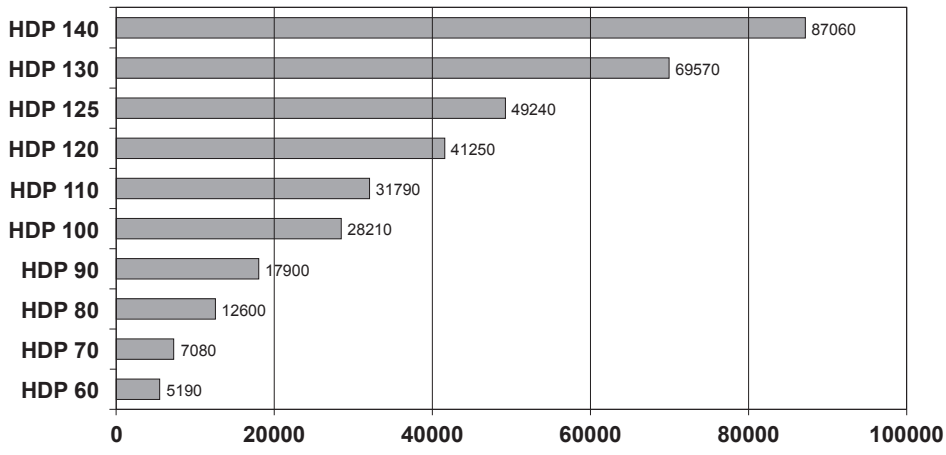
Selection of the the product must fit through the compilation of the selection form (see page 11). For a safe selection it is strongly recommended to rely on the long time experience of the Bonfiglioli Technical Service Dept.

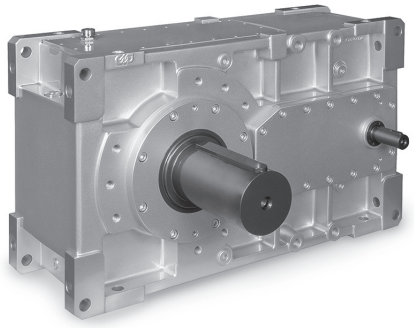
21 INSTALLATION, USE AND MAINTENANCE

All the instructions for installation, use and maintenance of the product are given in the unit's Manual.
This can be downloaded from www.bonfiglioli.com where the manual is available in PDF format in a number of languages.
This document must be kept in a suitable place, in the vicinity of the installed gear unit, as a reference for all persons authorised to work with or on the product throughout its service life.

22 CONSTRUCTION OF ATEX-SPECIFIED EQUIPMENT

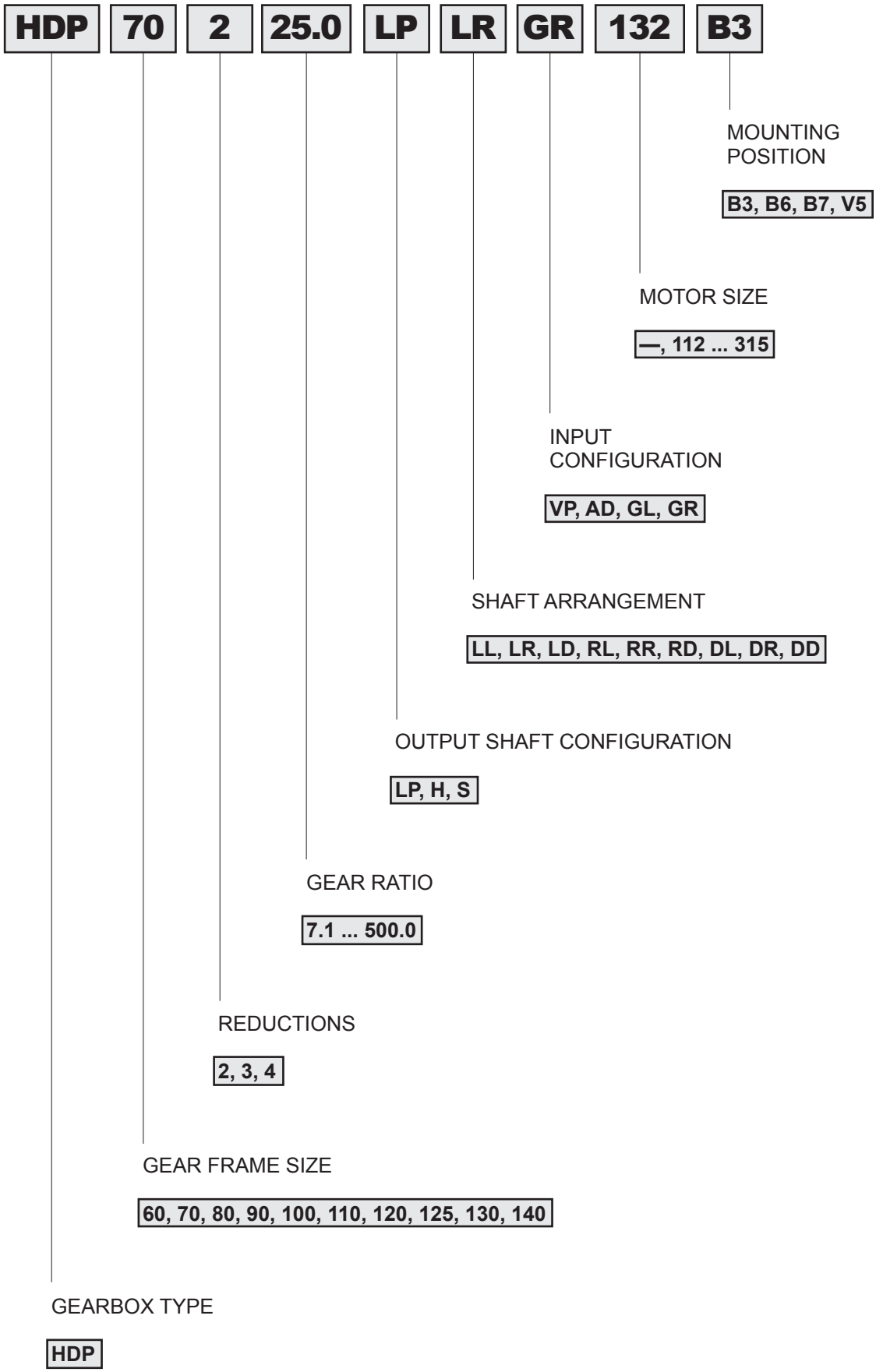
- Equipped with service plugs for periodic lubricant level checks.
- Equipped with vent caps with anti-intrusion valve.
- Fluoro elastomer seal rings as standard.
- No plastic component parts..
- Nameplate indication of the product category and type of protection.
- Components operable at above the operating temperature.
- Temperature indicator supplied along with each unit.



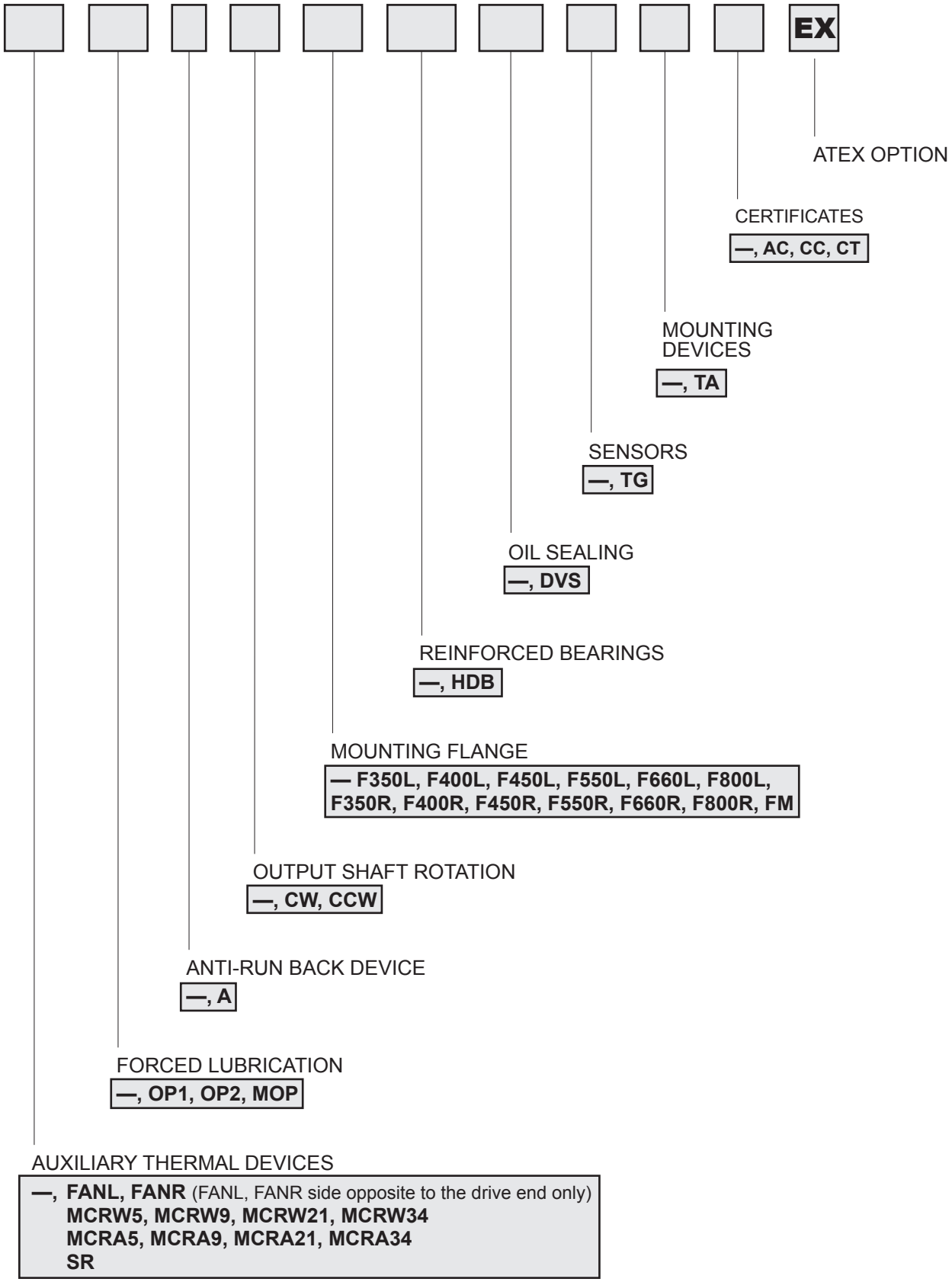


23 DESIGNATION

23.1 BASE VARIANTS



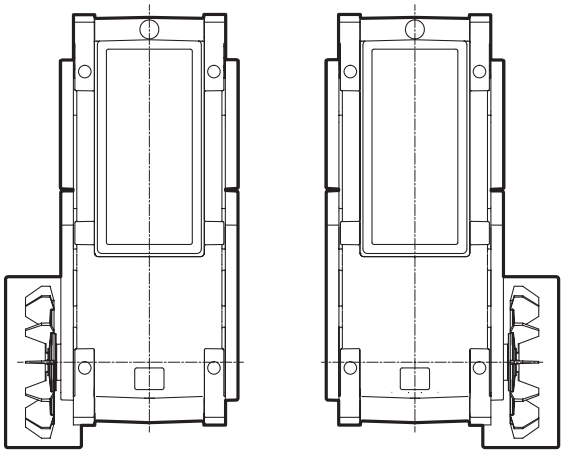
23.2 OPTIONAL VARIANTS



REMARK: The multiple selection of some of the variants may be subject to technical or dimensional constraints. Consult with the factory to have your selection approved.

23.3 FAN COOLING

Greater heat dissipation capacity can be achieved by installing cooling fans, which are keyed on to the gearbox input shaft. Gear units HDP 60 ... HDP 90 featuring a solid input shaft (VP) and HDP 100 ... HDP 160 with lantern type motor adapter (GL/GR) may have an auxiliary fan fitted to the side opposite the drive end. Specify code **FANL** or **FANR.**



FANL **FANR**

24 OTHER INFORMATION ABOUT GEARBOX AND GEARMOTOR

Mounting positions, technical data, motor availability,moments of inertia and dimensions of **HDP-EX (Atex)** series don't change among equivalent **HDP** product series. All of these information can be obtained in the related chapters of this catalogue.