

ETLZ040-040-250 GGS AV11D200304 BKS BIE5

Inline pump

Operating data

Requested flow rate		Actual flow rate	20.00 m ³ /h
Requested developed head		Actual developed head	17.49 m
Pumped medium	Water, heating water	Efficiency	44.5 %
	Heating water up to 100 °C (max.), acc. to VDI 2035	MEI (Minimum Efficiency Index)	≥ 0.70
Pumped medium details	Not containing chemical and mechanical substances which affect the materials	Power absorbed	2.08 kW
		Pump speed of rotation	1500 rpm
Max. ambient air temperature	20.0 °C	NPSH required	2.36 m
Min. ambient air temperature	20.0 °C	Permissible operating pressure	16.00 bar.g
Fluid temperature	80.0 °C		
Fluid density	972 kg/m ³	Discharge press.	1.67 bar.g
Fluid viscosity	0.37 mm ² /s	Shutoff head	22.37 m
Suction pressure max.	0.00 bar.g	Min. allow. flow for continuous stable operation	2.76 m ³ /h
Mass flow rate	5.40 kg/s	Min. allow. mass flow for continuous stable operation	0.75 kg/s
Max. power on curve	2.60 kW	Design	Twin system one full duty + one standby pump
Max. allow. mass flow	8.60 kg/s		Tolerances to ISO 9906 Class 3B; below 10 kW acc. to paragraph 4.4.2

Design

Pump standard	Without	Material code	BQ1EGG-WA
Design	Close coupled twin inline	Shaft seal code	11
Orientation	Vertical	Sealing plan	Single-acting mechanical seal with vented chamber (A-type casing cover, taper bore)
Suction nominal dia.	DN 40	Minimum requirements for hot water quality: treatment acc. to VdTÜV regulation TCH 1466 and solids content up to max. 5 mg/l.	
Suction nominal pressure	PN 16	Seal chamber design	Conical seal chamber (A-type cover)
Suction position	180° (down)	Contact guard	With
Suction flange drilled according to standard	EN1092-2	Wear ring	Casing wear ring
Discharge nominal dia.	DN 40	Impeller diameter	248.0 mm
Discharge nominal pressure	PN 16	Free passage size	7.1 mm
Discharge position	top (0°/360°)	Direction of rotation from drive	Clockwise
Discharge flange drilled according to standard	EN1092-2	Bearing bracket construction	Close-coupled
Surface type	Flat face	Bearing bracket size	25
Shaft seal	Single acting mechanical seal	Bearing type	Anti-friction bearings
Shaft seal manufacturer	KSB	Lubrication type	Grease
Shaft seal type	1	Color	Vermilion (RAL 2002)

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Driver, accessories

Driver type	Electric motor	Motor enclosure	IP55
Drive standard mech.	IEC	Cos phi at 4/4 load	0.69
Model (make)	KSB SuPremE®	Motor efficiency at 4/4 load	90.4 %
Type series motor manufacturer	SuPremE C2 (with mounting plate for PumpDrive 2, non removable)	Temperature sensor	3 PTC resistors
Drive supplied by	Standard motor supplied by KSB - mounted by KSB	Terminal box position	0° same orientation Viewed from the drive
Motor const. type	V1	Motor winding	400 V
Motor size	100L	Connection mode	Star
Efficiency class	Efficiency class IE5 acc. IEC/TS 60034-30-2 (2016) – free of magnets. Motor size 80 with ferrite magnets. The efficiency of the motor for a quadratic torque-speed characteristic is > 95% of the nominal efficiency even at 25% of the nominal power.	Motor cooling method	Surface cooling
Motor speed	1500 rpm	Motor material	Aluminium
Frequency	50 Hz	Motor noise pressure level	60 dBa
Designed for operation with frequency inverter	Yes	Driver colour	Same as the pump
Rated voltage	400 V	CE-approval	Yes
Rated power P2	3.00 kW	Ambient temperature	40
Available reserve	43.99 %	Max. absolute humidity	30
Rated current	7.8 A	Temp. sensor mtr. bearing	Without
Insulation class	F to IEC 34-1		

Materials G**Notes 1**

Unalloyed cast iron components: pH = 9 to 10.5 and O2 content <= 0.02 mg/kg.

Volute casing (102)	Grey cast iron EN-GJL-250/A48CL35B	Casing wear ring (502.1)	Grey cast iron GG/CAST IRON
Casing cover (161)	Grey cast iron EN-GJL-250/A48CL35B	Casing wear ring (502.2)	Grey cast iron GG/CAST IRON
Shaft (210)	Tempered steel C45+N	Disc (550)	Steel ST
Impeller (230)	Grey cast iron EN-GJL-250/A48CL35B	Stud (902)	Steel 8.8
Motor stool (341)	Grey cast iron EN-GJL-250/A48CL35B	Nut (920)	8+A2A/ 8+B633 SC1 TP3
Flat gasket (400)	DPAF seal plate asbestos free	Impeller nut (922)	Steel 8
Joint ring (411)	Steel ST	Key (940)	Steel C45+C / A311 GR 1045 CLASS A
		Pipe line (700)	Steel ST

Nameplates

Nameplates language	International	Supplementary text	PEC 01
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FOOT 85X 50X 60

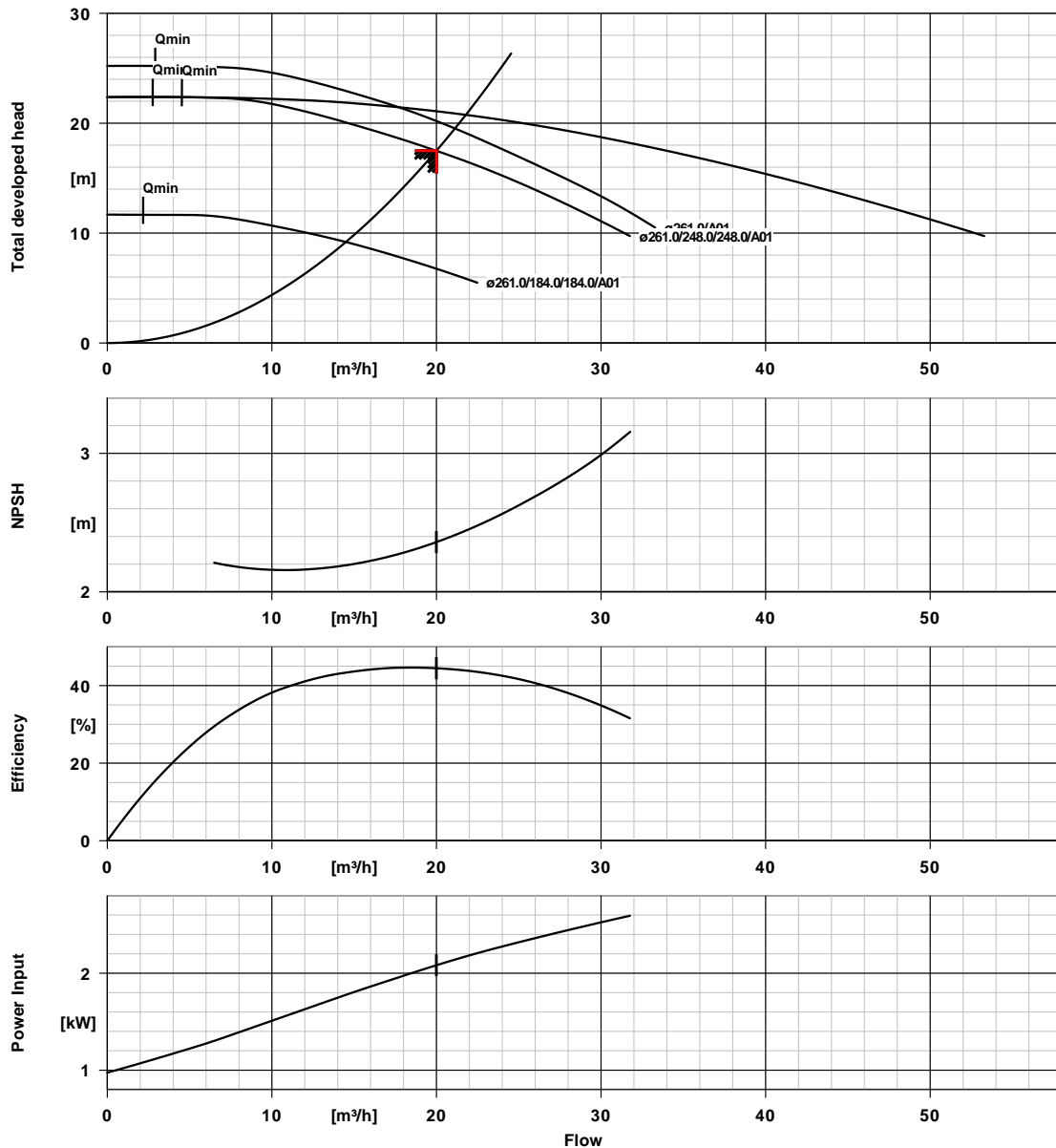
3 pump feet with bolts for vertical installation
Pump foot for vertical installation
Etaline(Z) 32-160/ up to 100-160/

Material no

47077960

Pump foot, not for Etaline SY
Weight : 2,0 kg

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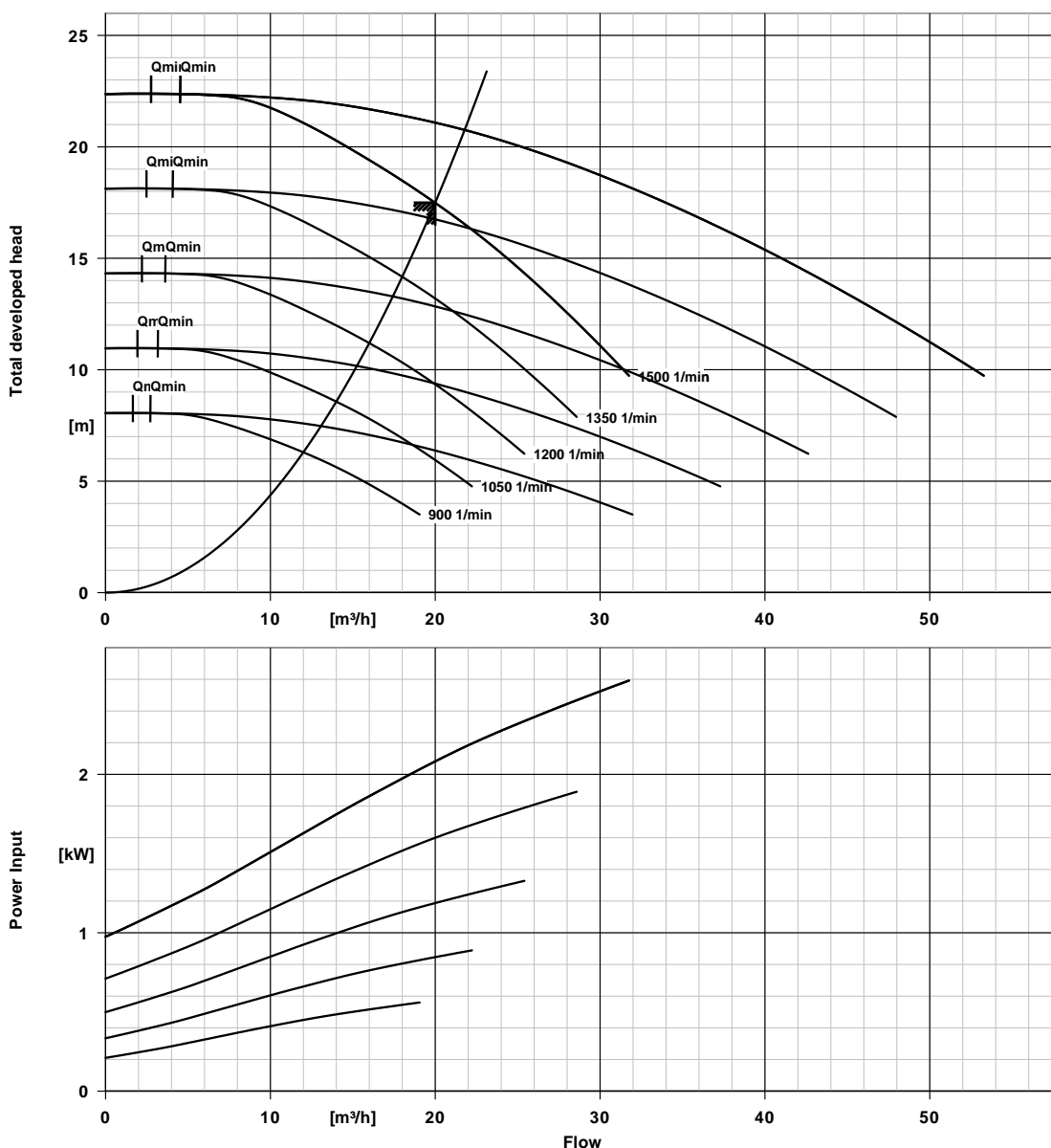


Curve data

Speed of rotation	1500 rpm	Efficiency	44.5 %
Fluid density	972 kg/m^3	MEI (Minimum Efficiency Index)	≥ 0.70
Viscosity	0.37 mm^2/s	Power absorbed	2.08 kW
Flow rate	20.00 m^3/h	NPSH required	2.36 m
Requested flow rate	20.00 m^3/h	Curve number	K1161.454/24
Total developed head	17.49 m	Effective impeller diameter	248.0 mm
Requested developed head	17.50 m	Acceptance standard	Tolerances to ISO 9906 Class 3B; below 10 kW acc. to paragraph 4.4.2

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Inline pump

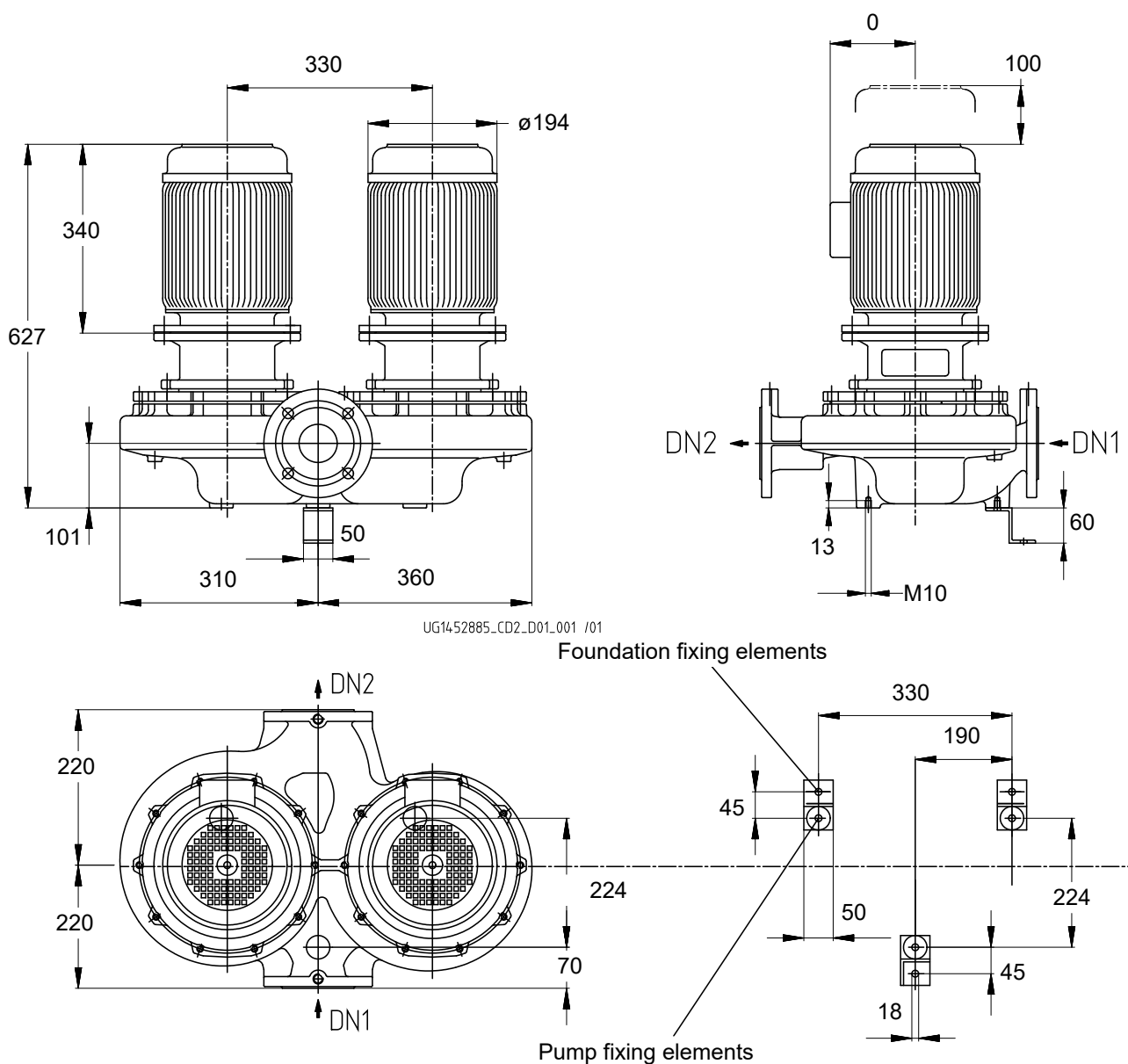


Curve data

Fluid density	972 kg/m ³	Total developed head	17.49 m
Viscosity	0.37 mm ² /s	Requested developed head	17.50 m
Flow rate	20.00 m ³ /h	MEI (Minimum Efficiency Index)	≥ 0.70
Requested flow rate	20.00 m ³ /h	Effective impeller diameter	248.0 mm

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Drawing is not to scale

Dimensions in mm

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Motor

Motor manufacturer	KSB
Motor size	100L
Motor power	3.00 kW
Number of poles	4
Speed of rotation	1500 rpm
Position of terminal box	0° same orientation Viewed from the drive

Connections

Suction nominal size DN1	DN 40 / EN1092-2
Discharge nominal size DN2	DN 40 / EN1092-2
Nominal pressure suct.	PN 16
Rated pressure disch.	PN 16

Weight net

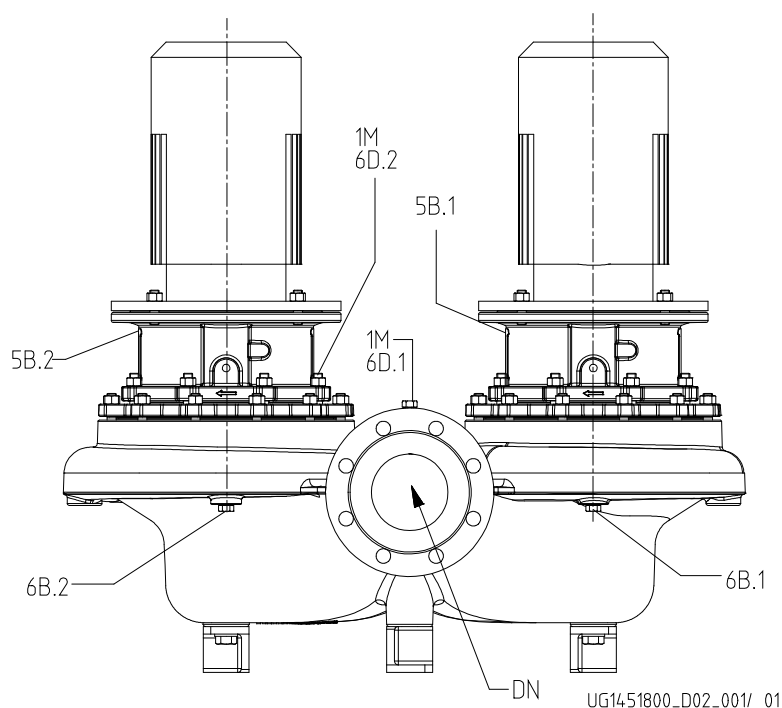
Pump	99 kg
Motor	52 kg
Other accessories	2 kg
Total	152 kg

Connect pipes without stress or strain!

For auxiliary connections see separate drawing.

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UG1451800_D02_001/ 01

Connections

Pump casing variant

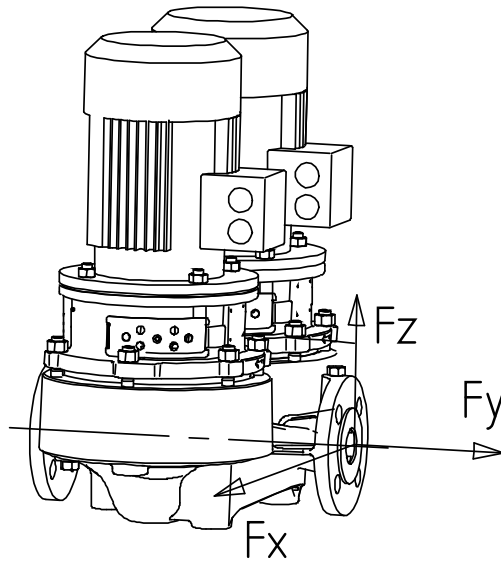
- 1M.1 Pressure gauge connection
- 1M.2 Pressure gauge connection
- 6B.1 Pumped liquid drain
- 6B.2 Pumped liquid drain
- 6D.1 Pumped medium - filling/venting
- 6D.2 Pumped medium - filling / venting
- 5B.1 venting
- 5B.2 venting

- G 1/4
- G 1/4
- G 1/4
- G 1/4
- G 1/4
- G 1/4
- G 1/4
- G 1/4

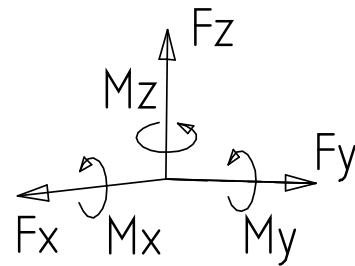
XX46

- Not executed
- Not executed
- Drilled and plugged.
- Drilled and plugged.
- Drilled and plugged.
- Drilled and plugged.
- Closed with venting plug
- Closed with venting plug

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UG1563799_002 /01



UG1563799_004 /01

Drawing is not to scale

Force and Moment Limits

Suction flange		Discharge flange	
Fx s	400 N	Fx d	400 N
Fy s	450 N	Fy d (+)	450 N
Fz s	350 N	Fz d	350 N
Fres s	696 N	Fres d	696 N
Mx s	450 Nm	Mx d	450 Nm
My s	320 Nm	My d	320 Nm
Mz s	370 Nm	Mz d	370 Nm
		Valid for temperature	80.0 °C

The given force and moment limits are only applicable for static pipe loads.
 A computerized strength analysis is only available on special request.
 The values apply for installation on completely grouted baseplates bolted to a rigid, level foundation.