Customer item no.:P-6248 Quantity: 1

### Etanorm RG 200-260

Volute casing pump in back pull-out design

### **Operating data**



Number: Item no.: 100 Date: Page: 1 / 16

Requested flow rate Operating data determined for Requested developed head Pumped medium Pumped medium details Max. ambient air temperature Min. ambient air temperature	510.00 m <sup>3</sup> /h maximum inlet pressure 15.40 m Water Clean water Not containing chemical and mechanical substances which affect the materials 20.0 °C 20.0 °C	Actual flow rate Actual developed head Efficiency MEI (Minimum Efficiency Index) Power absorbed Pump speed of rotation NPSH required Permissible operating pressure	510.25 m <sup>3</sup> /h 15.41 m 82.4 % ≥ 0.40 25.85 kW 1485 rpm 4.77 m 10.00 bar.g
Fluid temperature Fluid density Fluid viscosity Suction pressure max. Suction pressure min. NPSH available Mass flow rate	35.0 °C 994 kg/m <sup>3</sup> 0.72 mm <sup>2</sup> /s 0.00 bar.g -0.06 bar.g 9.00 m 140.86 kg/s	Discharge press. Shutoff head Max. power on curve Min. allow. flow for continuous stable operation Min. allow. mass flow for continuous stable operation Max. allow. mass flow Performance test	1.50 bar.g 19.20 m 27.08 kW 164.51 m <sup>3</sup> /h 45.42 kg/s 205.45 kg/s Yes
Design			
Pump standard Design Orientation	EN 733 Baseplate mounted, long- coupled Horizontal	Material code Sealing plan	Q1BEGG A Single-acting mechanical seal (A-type casing cover, taper bore)
Suction nominal dia.	DN 200	A liquid free of solids is assume	
Suction nominal pressure	PN 10	Seal chamber design	Conical seal chamber (A-type
Suction position Suction flange drilled according to standard Discharge nominal dia. Discharge nominal pressure Discharge position	axial EN 1092-2 DN 200 PN 10 top (0°/360°) Viewed towards the suction	Contact guard Wear ring Impeller diameter Direction of rotation from drive Bearing bracket construction Bearing bracket size	Standard (normal) WE65
Discharge flange drilled according to standard Shaft seal Shaft seal manufacturer	nozzle EN 1092-2 Single acting mechanical seal KSB	Bearing seal Bearing type Lubrication type Color	Flat gap Anti-friction bearings Grease Ultramarine blue (RAL 5002) KSB-blue
Shaft seal type	4EB		

Customer item no.:P-6248 Quantity: 1

### Etanorm RG 200-260

Volute casing pump in back pull-out design

### Driver, accessories



Number: Item no.: 100 Date: Page: 2 / 16

Coupling Manufacturer	Flender	Rated current	70.1 A
Coupling type Nominal size	Eupex N	Starting current ratio	8.1
Nominal size	160	Insulation class Motor enclosure	F to IEC 34-1 IP55
Coupling guard type	Lightweight, not treadproof	Cos phi at 4/4 load	0.84
	(ZN79)	Motor efficiency at 4/4 load	93.9 %
Guard size	B254	Temperature sensor	3 PTC resistors
Guard material	Galvanised steel ST TZN	Terminal box position	0°/360° (top)
Baseplate type	Etanorm R baseplate	·	Viewed towards the suction
Baseplate size	E2		nozzle
-		Motor winding	400 / 690 V
Driver type Drive standard mech.	Electric motor IEC	Number of poles	4
Model (make)	KSB-Motor	Connection mode	Delta
Drive supplied by	Standard motor supplied by	Motor cooling method	Surface cooling
	KSB - mounted by KSB	Motor material	Grey cast iron GG/CAST IRON VFD-suitability only in
Motor const. type	B3	Frequency inverter operation allowed	connection with KSB
Motor size	225S	allowed	PumpDrive
Efficiency class	Efficiency class IE3 acc. to	Motor noise pressure level	68 dBa
	IEC60034-30-1	Motor data can vary from type	
Motor speed	1485 rpm	describes KSB 's choice function	
Frequency	50 Hz	for pump selection.	
Rated voltage	400 V	CE-approval	Yes
Rated power P2 Available reserve	37.00 kW 43.16 %	EAC Approval	Yes
Available reserve	43.10 %	Ambient temperature	40.0 °C
		Max. absolute humidity	30 %
		Temp. sensor mtr. bearing UKCA conformity	Without Yes
		OKCA comonnity	165
Materials G			
Notes		Impeller (230)	Grey cast iron EN-GJL-250
	lysis: pH-value >= 6,5; chloride	Bearing bracket (330)	Grey cast iron EN-GJL-250
content (Cl) <=250 mg/kg. Chlo		Joint ring (411)	DPAFseal plate asbestos free
Volute casing (102)	Grey cast iron EN-GJL-250	Casing wear ring (502.1)	Grey cast iron GG/CAST IRON
Casing cover (161)	Grey cast iron EN-GJL-250 Tempered steel C45+N	Casing wear ring (502.2)	Grey cast iron GG/CAST IRON
Shaft (210)	Tempered Steel C45+N		
Packaging			
Packaging category	B2 With desiccants in PE-	Packaging for country	Germany
	plastic sheeting, heat-sealed	Outdoor storage at -40 °C to +5	50°C, up to 12 months. Packet
	water-proof, in	must be covered.	
	wooden/plywood case,		
	outdoor storage up to 12 months		
Packaging for storage	Indoor		
Packaging for transport	Truck		
Nameplates			
-	Cormon	Mount outcomer and	Without
Nameplates language	German	Mount customer spec. nameplate	Without

Customer item no.:P-6248 Quantity: 1

### Etanorm RG 200-260

Volute casing pump in back pull-out design

### Certifications



Number: Item no.: 100 Date: Page: 3 / 16

Hydraulic performance test Acceptance standard Quantity meas. points Q-H	ISO 9906 class 2B 5	Test pressure Test time Certificate	15.00 bar.g 10.0 min Inspection cert. 3.1 to EN 10204
Certificate	Inspection cert. 3.1 to EN 10204	Test participation	Non-witnessed
Test participation	Non-witnessed	Final visual inspection	
Quantity, non-witnessed	1	Certificate	Inspection cert. 3.1 to EN
Quantity, witnessed	0		10204
		Test participation	Non-witnessed
Hydrostatic test (room temp	.)		
Range	Complete pump with shaft seal	t Material certificates: Volute casing, casing cover, impeller (102, 161, 210, 230)	
		Certificate	Test report 2.2 to EN 10204

### Performance curve

KSB **b** 

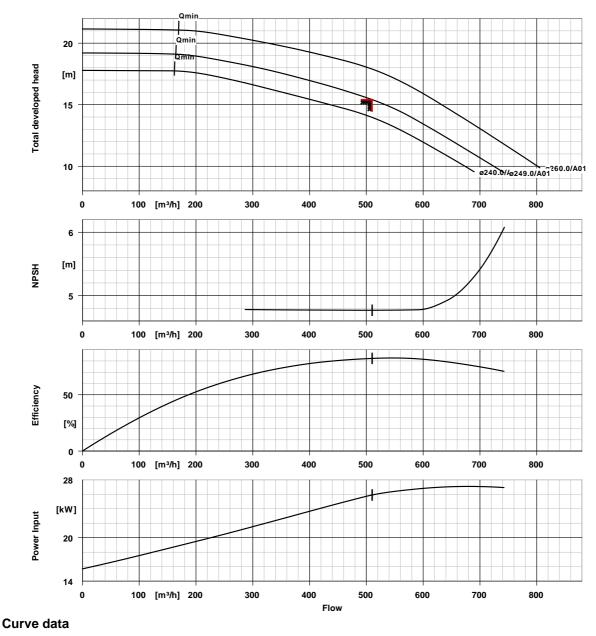
Customer item no.:P-6248 Quantity: 1

#### Etanorm RG 200-260

Volute casing pump in back pull-out design

Number: Item no.:100 Date: Page: 4 / 16

Version no.: 1



Speed of rotation1485 rpmFluid density994 kg/m³Viscosity0.72 mm²/sFlow rate510.25 m³/hRequested flow rate510.00 m³/hTotal developed head15.41 mRequested developed head15.40 m

Efficiency82.4 %MEI (Minimum Efficiency $\geq 0.40$ Index) $\geq$ Power absorbed25.85 kNPSHR4.77 mCurve numberK34900Effective impeller diameter249.0 mAcceptance standardISO 990

25.85 kW 4.77 m K34900 249.0 mm ISO 9906 class 2B



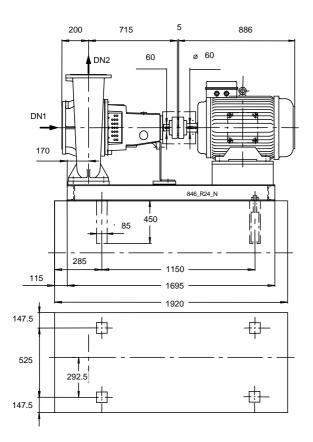
Number: Item no.:100 Date: Page: 5 / 16

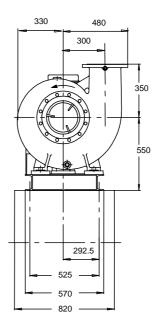
Version no.: 1

Customer item no.:P-6248 Quantity: 1

### Etanorm RG 200-260

Volute casing pump in back pull-out design





Drawing is not to scale

Dimensions in mm

Customer item no.:P-6248 Quantity: 1

#### Etanorm RG 200-260

Motor manufacturer

Volute casing pump in back pull-out design

KSB-Motor

225S

4

E2

Steel ST

37.00 kW

1485 rpm

0°/360° (top) Viewed towards the

suction nozzle

Etanorm R baseplate

#### Motor

Motor size

Baseplate

Design

Material

Size

Motor power

Number of poles

Speed of rotation

Position of terminal box

KSB

Number: Item no.:100 Date: Page: 6 / 16

Version no.: 1

#### Connections

Suction nominal size DN1	DN 200 / EN 1092-2
Discharge nominal size DN2	DN 200 / EN 1092-2
Nominal pressure suct.	PN 10
Rated pressure disch.	PN 10

### Coupling

Coupling manufacturer Coupling type Coupling size Spacer

### Weight net

Pump Baseplate Coupling Coupling guard Motor Total

### 10 kg 3 kg 392 kg 962 kg

#### For auxiliary connections see separate drawing.

Rp1, Without Leakage drain baseplate (8B) Baseplate drain piping Without execution Foundation bolts M20x400 (required but not scope of supply) Connect pipes without stress or strain!

Dimensional tolerances for shaft axis height: Dimensions without tolerances, middle tolerances to: Connection dimensions for pumps: Dimensions without tolerances - welded parts: Dimensions without tolerances - gray cast iron parts:

**DIN 747** ISO 2768-m EN735 ISO 13920-B ISO 8062-CT9

Flender Eupex N 160 0.0 mm

202 kg

355 kg

## **Connection plan**



Number: Item no.:100 Date: Page: 7 / 16

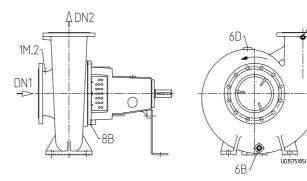
1M.1

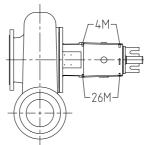
Version no.: 1

Customer item no.:P-6248 Quantity: 1

### Etanorm RG 200-260

Volute casing pump in back pull-out design





### Connections

1M.1 Pressure gauge connection	G 1/2
1M.2 Pressure gauge connection	G 1/2
6B Pumped liquid drain	G 3/4
6D Pumped medium - filling / venting	G 3/4
8B Leakage drain	G 3/4
26MShock pulse measurement connection	
4M Temperature measurement connection	

Drilled and plugged. Drilled and plugged. Drilled and plugged. Drilled and plugged. Drilled Not executed Not executed

### **Force and Moment Limits**

KSB **b.** 

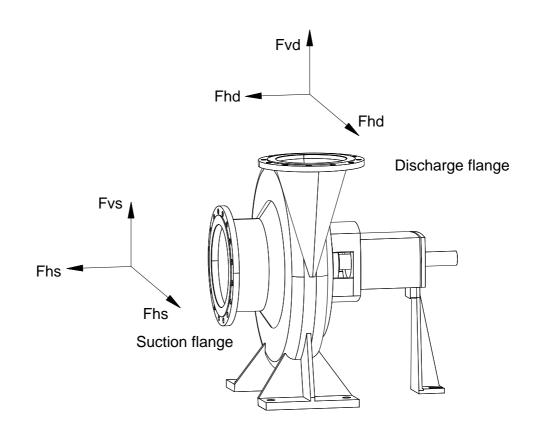
Customer item no.:P-6248 Quantity: 1

#### Etanorm RG 200-260

Volute casing pump in back pull-out design

Number: Item no.:100 Date: Page: 8 / 16

# Version no.: 1



#### Drawing is not to scale

### **Force and Moment Limits**

Suction flange		Discharge flange	
Fvs	4000 N	Fvd	4000 N
Fhs	5600 N	Fhd	5600 N
Mts	2400 Nm	Mtd	2400 Nm
Valid for temperature	35.0 °C		

The allowable resulting forces are to be determined by

$$\left[\frac{\sum |Fv|}{|Fv_{\max}|}\right]^2 + \left[\frac{\sum |FH|}{|F_{\max}|}\right]^2 + \left[\frac{\sum |Mt|}{|M_{\max}|}\right]^2 \le 1$$

using the sums of the absolute values of the respective loads acting on the nozzles.

The given forces and torques are the sums of the absolute values of the forces acting on the respective flange. The sum of the forces is calculated regardless of their direction.

The given force and torque limits are only applicable for static pipe loads.

The values apply for installation on completely grouted baseplates bolted to a rigid, level foundation

Customer item no.:P-6231 Quantity: 1

### Etanorm RG 250-400

Volute casing pump in back pull-out design

### **Operating data**



Number: Item no.: 200 Date: Page: 9 / 16

Requested flow rate	885.00 m ³/h	Actual flow rate	884.99 m ³/h
Requested developed head	31.80 m	Actual developed head	31.80 m
Pumped medium	Water	Efficiency	83.1 %
	Clean water	MEI (Minimum Efficiency	≥ 0.40
Pumped medium details	Not containing chemical and	Index)	
	mechanical substances which	Power absorbed	91.65 kW
	affect the materials	Pump speed of rotation	1489 rpm
Max. ambient air temperature	20.0 °C	NPSH required	8.41 m
Min. ambient air temperature	20.0 °C	Permissible operating	10.00 bar.g
Fluid temperature	35.0 °C	pressure	-
Fluid density	994 kg/m³	Discharge press.	3.10 bar.g
Fluid viscosity	0.72 mm ²/s	Shutoff head	44.91 m
Suction pressure max.	0.00 bar.g	Min. allow. flow for continuous	234.16 m <sup>3</sup> /h
Mass flow rate	244.32 kg/s	stable operation	
Max. power on curve	93.43 kW	Min. allow. mass flow for	64.65 kg/s
Max. allow. mass flow	310.28 kg/s	continuous stable operation	
		Performance test	Yes
Design			
Pump standard	EN 733	Material code	Q1BEGG
Pump standard Design	EN 733 Baseplate mounted, long-	Material code Sealing plan	Q1BEGG A Single-acting mechanical
•			
•	Baseplate mounted, long-		A Single-acting mechanical
Design	Baseplate mounted, long- coupled		A Single-acting mechanical seal (A-type casing cover, taper bore)
Design Orientation	Baseplate mounted, long- coupled Horizontal	Sealing plan	A Single-acting mechanical seal (A-type casing cover, taper bore)
Design Orientation Suction nominal dia.	Baseplate mounted, long- coupled Horizontal DN 300	Sealing plan A liquid free of solids is assume	A Single-acting mechanical seal (A-type casing cover, taper bore) d
Design Orientation Suction nominal dia. Suction nominal pressure	Baseplate mounted, long- coupled Horizontal DN 300 PN 10	Sealing plan A liquid free of solids is assume	A Single-acting mechanical seal (A-type casing cover, taper bore) d Conical seal chamber (A-type
Design Orientation Suction nominal dia. Suction nominal pressure Suction position	Baseplate mounted, long- coupled Horizontal DN 300 PN 10 axial	Sealing plan A liquid free of solids is assume Seal chamber design	A Single-acting mechanical seal (A-type casing cover, taper bore) d Conical seal chamber (A-type cover)
Design Orientation Suction nominal dia. Suction nominal pressure Suction position Suction flange drilled	Baseplate mounted, long- coupled Horizontal DN 300 PN 10 axial	Sealing plan A liquid free of solids is assume Seal chamber design Contact guard	A Single-acting mechanical seal (A-type casing cover, taper bore) d Conical seal chamber (A-type cover) With
Design Orientation Suction nominal dia. Suction nominal pressure Suction position Suction flange drilled according to standard	Baseplate mounted, long- coupled Horizontal DN 300 PN 10 axial EN 1092-2	Sealing plan A liquid free of solids is assume Seal chamber design Contact guard Wear ring	A Single-acting mechanical seal (A-type casing cover, taper bore) d Conical seal chamber (A-type cover) With Casing wear ring 366.0 mm
Design Orientation Suction nominal dia. Suction nominal pressure Suction position Suction flange drilled according to standard Discharge nominal dia.	Baseplate mounted, long- coupled Horizontal DN 300 PN 10 axial EN 1092-2 DN 250	Sealing plan A liquid free of solids is assume Seal chamber design Contact guard Wear ring Impeller diameter	A Single-acting mechanical seal (A-type casing cover, taper bore) d Conical seal chamber (A-type cover) With Casing wear ring 366.0 mm
Design Orientation Suction nominal dia. Suction nominal pressure Suction position Suction flange drilled according to standard Discharge nominal dia. Discharge nominal pressure	Baseplate mounted, long- coupled Horizontal DN 300 PN 10 axial EN 1092-2 DN 250 PN 10	Sealing plan A liquid free of solids is assume Seal chamber design Contact guard Wear ring Impeller diameter Direction of rotation from drive	A Single-acting mechanical seal (A-type casing cover, taper bore) d Conical seal chamber (A-type cover) With Casing wear ring 366.0 mm Clockwise
Design Orientation Suction nominal dia. Suction nominal pressure Suction position Suction flange drilled according to standard Discharge nominal dia. Discharge nominal pressure	Baseplate mounted, long- coupled Horizontal DN 300 PN 10 axial EN 1092-2 DN 250 PN 10 top (0°/360°)	Sealing plan A liquid free of solids is assume Seal chamber design Contact guard Wear ring Impeller diameter Direction of rotation from drive Bearing bracket construction Bearing bracket size Bearing seal	A Single-acting mechanical seal (A-type casing cover, taper bore) d Conical seal chamber (A-type cover) With Casing wear ring 366.0 mm Clockwise Standard (normal)
Design Orientation Suction nominal dia. Suction nominal pressure Suction position Suction flange drilled according to standard Discharge nominal dia. Discharge nominal pressure	Baseplate mounted, long- coupled Horizontal DN 300 PN 10 axial EN 1092-2 DN 250 PN 10 top (0°/360°) Viewed towards the suction	Sealing plan A liquid free of solids is assume Seal chamber design Contact guard Wear ring Impeller diameter Direction of rotation from drive Bearing bracket construction Bearing bracket size Bearing seal Bearing type	A Single-acting mechanical seal (A-type casing cover, taper bore) d Conical seal chamber (A-type cover) With Casing wear ring 366.0 mm Clockwise Standard (normal) WE65
Design Orientation Suction nominal dia. Suction nominal pressure Suction position Suction flange drilled according to standard Discharge nominal dia. Discharge nominal pressure Discharge position	Baseplate mounted, long- coupled Horizontal DN 300 PN 10 axial EN 1092-2 DN 250 PN 10 top (0°/360°) Viewed towards the suction nozzle	Sealing plan A liquid free of solids is assume Seal chamber design Contact guard Wear ring Impeller diameter Direction of rotation from drive Bearing bracket construction Bearing bracket size Bearing seal	A Single-acting mechanical seal (A-type casing cover, taper bore) d Conical seal chamber (A-type cover) With Casing wear ring 366.0 mm Clockwise Standard (normal) WE65 Flat gap
Design Orientation Suction nominal dia. Suction nominal pressure Suction position Suction flange drilled according to standard Discharge nominal dia. Discharge nominal pressure Discharge position	Baseplate mounted, long- coupled Horizontal DN 300 PN 10 axial EN 1092-2 DN 250 PN 10 top (0°/360°) Viewed towards the suction nozzle	Sealing plan A liquid free of solids is assume Seal chamber design Contact guard Wear ring Impeller diameter Direction of rotation from drive Bearing bracket construction Bearing bracket size Bearing seal Bearing type	A Single-acting mechanical seal (A-type casing cover, taper bore) d Conical seal chamber (A-type cover) With Casing wear ring 366.0 mm Clockwise Standard (normal) WE65 Flat gap Anti-friction bearings
Design Orientation Suction nominal dia. Suction nominal pressure Suction position Suction flange drilled according to standard Discharge nominal dia. Discharge nominal pressure Discharge position	Baseplate mounted, long- coupled Horizontal DN 300 PN 10 axial EN 1092-2 DN 250 PN 10 top (0°/360°) Viewed towards the suction nozzle EN 1092-2	Sealing plan A liquid free of solids is assume Seal chamber design Contact guard Wear ring Impeller diameter Direction of rotation from drive Bearing bracket construction Bearing bracket size Bearing seal Bearing type Lubrication type	A Single-acting mechanical seal (A-type casing cover, taper bore) d Conical seal chamber (A-type cover) With Casing wear ring 366.0 mm Clockwise Standard (normal) WE65 Flat gap Anti-friction bearings Grease
Design Orientation Suction nominal dia. Suction nominal pressure Suction position Suction flange drilled according to standard Discharge nominal dia. Discharge nominal pressure Discharge position	Baseplate mounted, long- coupled Horizontal DN 300 PN 10 axial EN 1092-2 DN 250 PN 10 top (0°/360°) Viewed towards the suction nozzle EN 1092-2 Single acting mechanical	Sealing plan A liquid free of solids is assume Seal chamber design Contact guard Wear ring Impeller diameter Direction of rotation from drive Bearing bracket construction Bearing bracket size Bearing seal Bearing type Lubrication type	A Single-acting mechanical seal (A-type casing cover, taper bore) d Conical seal chamber (A-type cover) With Casing wear ring 366.0 mm Clockwise Standard (normal) WE65 Flat gap Anti-friction bearings Grease Ultramarine blue (RAL 5002)
Design Orientation Suction nominal dia. Suction nominal pressure Suction position Suction flange drilled according to standard Discharge nominal dia. Discharge nominal pressure Discharge position Discharge flange drilled according to standard Shaft seal	Baseplate mounted, long- coupled Horizontal DN 300 PN 10 axial EN 1092-2 DN 250 PN 10 top (0°/360°) Viewed towards the suction nozzle EN 1092-2 Single acting mechanical seal	Sealing plan A liquid free of solids is assume Seal chamber design Contact guard Wear ring Impeller diameter Direction of rotation from drive Bearing bracket construction Bearing bracket size Bearing seal Bearing type Lubrication type	A Single-acting mechanical seal (A-type casing cover, taper bore) d Conical seal chamber (A-type cover) With Casing wear ring 366.0 mm Clockwise Standard (normal) WE65 Flat gap Anti-friction bearings Grease Ultramarine blue (RAL 5002)

Customer item no.:P-6231 Quantity: 1

### Etanorm RG 250-400

Volute casing pump in back pull-out design

### Driver, accessories



Number: Item no.: 200 Date: Page: 10 / 16

Coupling Manufacturer Coupling type Nominal size Coupling guard type Guard size Guard material Baseplate type Baseplate size Driver type Drive standard mech. Model (make)	Flender Eupex N 200 Lightweight, not treadproof (ZN79) B254 Galvanised steel ST TZN Etanorm R baseplate E7 Electric motor IEC KSB-Motor Standard motor supplied by	Rated current Starting current ratio Insulation class Motor enclosure Cos phi at 4/4 load Motor efficiency at 4/4 load Temperature sensor Terminal box position Motor winding Number of poles Connection mode Motor cooling method	202.8 A 7.8 F to IEC 34-1 IP55 0.86 95.4 % 3 PTC resistors 0°/360° (top) Viewed towards the suction nozzle 400 / 690 V 4 Delta Surface cooling
Drive supplied by Motor const. type Motor size Efficiency class Motor speed Frequency Rated voltage Rated power P2 Available reserve	Standard motor supplied by KSB - mounted by KSB B3 315S Efficiency class IE3 acc. to IEC60034-30-1 1489 rpm 50 Hz 400 V 110.00 kW 20.02 %	Motor material Motor noise pressure level Motor data can vary from type   describes KSB 's choice function for pump selection. CE-approval EAC Approval Ambient temperature Max. absolute humidity Temp. sensor mtr. bearing UKCA conformity	Grey cast iron GG/CAST IRON 75 dBa plate information. Motor data onal specification and is used Yes 40.0 °C 30 % Without Yes
Materials G			
Notes General criteria for a water ana content (Cl) <=250 mg/kg. Chlo Volute casing (102) Casing cover (161) Shaft (210)	llysis: pH-value >= 6,5; chloride prine (Cl2) <=0.6 mg/kg. Grey cast iron EN-GJL-250 Grey cast iron EN-GJL-250 Tempered steel C45+N	Impeller (230) Bearing bracket (330) Joint ring (411) Casing wear ring (502.1) Casing wear ring (502.2)	Grey cast iron EN-GJL-250 Grey cast iron EN-GJL-250 DPAFseal plate asbestos free Grey cast iron GG/CAST IRON Grey cast iron GG/CAST IRON
Packaging			
Packaging category	B2 With desiccants in PE- plastic sheeting, heat-sealed water-proof, in wooden/plywood case, outdoor storage up to 12 months	Packaging for transport Outdoor storage at -40 °C to +5 must be covered.	Truck 50°C, up to 12 months. Packet
Packaging for storage	Indoor		
Nameplates			
Nameplates language	German	Mount customer spec. nameplate	Without

Customer item no.:P-6231 Quantity: 1

### Etanorm RG 250-400

Volute casing pump in back pull-out design

### Certifications



Number: Item no.: 200 Date: Page: 11 / 16

		Test pressure	15.00 bar.g
Hydraulic performance test		Test time	10.0 min
Acceptance standard	ISO 9906 class 2B	Certificate	Inspection cert. 3.1 to EN
Quantity meas. points Q-H	5		10204
Certificate	Inspection cert. 3.1 to EN 10204	Test participation	Non-witnessed
Test participation	Non-witnessed	Final visual inspection	
Quantity, non-witnessed	1	Certificate	Inspection cert. 3.1 to EN
Quantity, witnessed	0		10204
-		Test participation	Non-witnessed
Hydrostatic test (room temp	.)		
Range	Complete pump with shaft seal	t Material certificates: Volute casing, casing cover, impeller (102, 161, 210, 230)	
		Certificate	Test report 2.2 to EN 10204

### Performance curve

Customer item no.:P-6231 Quantity: 1

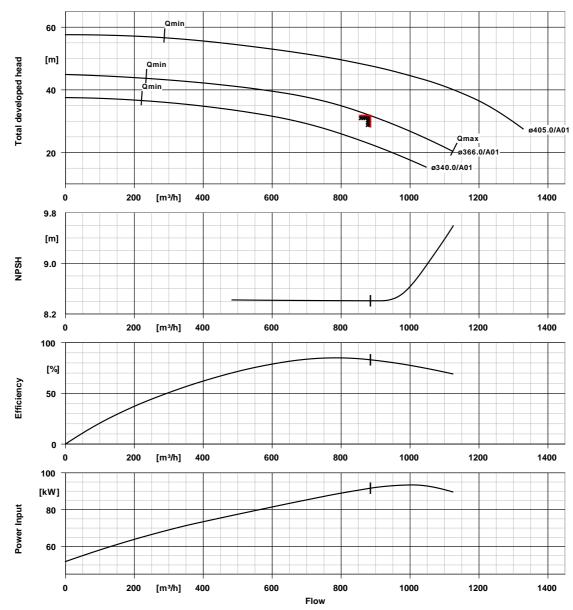
#### Etanorm RG 250-400

Volute casing pump in back pull-out design



Number: Item no.:200 Date: Page: 12 / 16

### Version no.: 1



#### Curve data

Speed of rotation	1489 rpm
Fluid density	994 kg/m <sup>3</sup>
Viscosity	0.72 mm <sup>2</sup> /s
Flow rate	884.99 m <sup>3</sup> /h
Requested flow rate	885.00 m <sup>3</sup> /h
Total developed head	31.80 m
Requested developed head	31.80 m

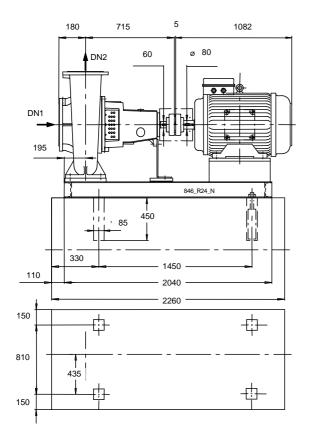
Efficiency83.1 %MEI (Minimum Efficiency $\geq 0.40$ Index)91.65 kPower absorbed91.65 kNPSHR8.41 mCurve numberK34700Effective impeller diameter366.0 mAcceptance standardISO 990

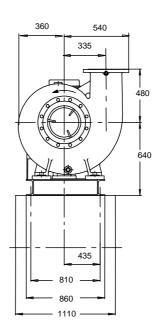
91.65 kW 8.41 m K34700 366.0 mm ISO 9906 class 2B

Customer item no.:P-6231 Quantity: 1

### Etanorm RG 250-400

Volute casing pump in back pull-out design





Drawing is not to scale

Dimensions in mm



Number: Item no.:200 Date: Page: 13 / 16

Customer item no.:P-6231 Quantity: 1

#### Etanorm RG 250-400

Motor manufacturer

Volute casing pump in back pull-out design

**KSB-Motor** 

110.00 kW

1489 rpm

0°/360° (top) Viewed towards the

suction nozzle

Etanorm R baseplate

M20x400 (required but not

315S

4

E7

Steel ST

Without

Rp1, Without

scope of supply)

#### Motor

Motor size

Baseplate

Design

Material

execution

Size

(8B)

Motor power

Number of poles

Speed of rotation

Position of terminal box

Leakage drain baseplate

Baseplate drain piping

Foundation bolts

KSB **b.** 

Number: Item no.:200 Date: Page: 14 / 16

> Flender Eupex N

200

0.0 mm

460 kg

343 kg

20 kg

1010 kg

1836 kg

3 kg

Version no.: 1

#### Connections

Suction nominal size DN1	DN 300 / EN 1092-2
Discharge nominal size DN2	DN 250 / EN 1092-2
Nominal pressure suct.	PN 10
Rated pressure disch.	PN 10

### Coupling

Coupling manufacturer Coupling type Coupling size Spacer

### Weight net

Pump Baseplate Coupling Coupling guard Motor Total

### Connect pipes without stress or strain!

Dimensional tolerances for shaft axis height: Dimensions without tolerances, middle tolerances to: Connection dimensions for pumps: Dimensions without tolerances - welded parts: Dimensions without tolerances - gray cast iron parts: DIN 747 ISO 2768-m EN735 ISO 13920-B ISO 8062-CT9 For auxiliary connections see separate drawing.

## **Connection plan**



Number: Item no.:200 Date: Page: 15 / 16

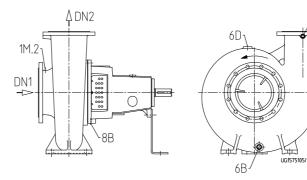
1M.1

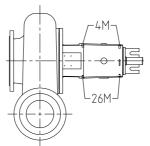
Version no.: 1

Customer item no.:P-6231 Quantity: 1

### Etanorm RG 250-400

Volute casing pump in back pull-out design





### Connections

1M.1 Pressure gauge connection G	G 1/2
1M.2 Pressure gauge connection G	G 1/2
6B Pumped liquid drain G	G 3/4
6D Pumped medium - filling / venting	G 3/4
8B Leakage drain G	G 3/4
26MShock pulse measurement connection	
4M Temperature measurement connection	

Drilled and plugged. Drilled and plugged. Drilled and plugged. Drilled and plugged. Drilled Not executed Not executed

### **Force and Moment Limits**

KSB **b** 

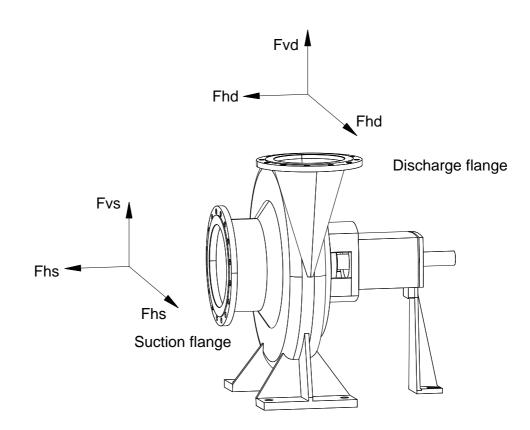
Customer item no.:P-6231 Quantity: 1

### Etanorm RG 250-400

Volute casing pump in back pull-out design

Number: Item no.:200 Date: Page: 16 / 16

## Version no.: 1



Drawing is not to scale

### **Force and Moment Limits**

Suction flange	Discharge flange		
Fvs	5000 N	Fvd	5000 N
Fhs	7000 N	Fhd	7000 N
Mts	6200 Nm	Mtd	3800 Nm
Valid for temperature	35.0 °C		

The allowable resulting forces are to be determined by

$$\left[\frac{\sum |Fv|}{|Fv_{\max}|}\right]^2 + \left[\frac{\sum |FH|}{|F_{\max}|}\right]^2 + \left[\frac{\sum |Mt|}{|M_{\max}|}\right]^2 \le 1$$

using the sums of the absolute values of the respective loads acting on the nozzles.

The given forces and torques are the sums of the absolute values of the forces acting on the respective flange. The sum of the forces is calculated regardless of their direction.

The given force and torque limits are only applicable for static pipe loads.

The values apply for installation on completely grouted baseplates bolted to a rigid, level foundation



#### General assembly drawings

#### 903.03 411.03 a) 902.01 920.01 ₽ 903.08 411.08 902.04 920.04 102 502.02 -81-92 901.14 550.74 230 502.01 901.01 400.02 901.02 400.01 360.02 903.04 411.04 360.01 507 **£41**34 411.78 411.04 210 940.01 940.02 922 Æ 524 $\nabla$ 161 500.21 400.19 321.02 500.18 -321.01 901.04 550.41 £ 411.77 -330 183 731.04 -901.31 903.01 411.01 町 b) 903.03 411.03 903.08 411.08 902.01 920.01 902.04 920.04 412.47 171 -902.01 920.01 c) 502.02 502.04 903.04 411.04 502.03 502.01 囫 525.01 minn 丆 œ₿ 922 \_\_\_\_\_ 777 940.01 400.04 102 230.01 161 903.62 411.62 901.30 903.01 411.01 731.04 524 230.02 400.19

#### General assembly drawing with list of components



<sup>20</sup> On sizes 200-250, 200-260, 200-330, 250-300, 250-330 only