

Grey Water and Condensate Pump

Rotex

Type Series Booklet



Legal information/Copyright

Type Series Booklet Rotex

Original operating manual

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Contents

Drainage / Waste Water 4

 Grey Water and Condensate Pump 4

 Rotex 4

 Main applications 4

 Fluids handled 4

 Operating data 4

 Designation 4

 Design details 4

 Materials 5

 Product benefits 5

 Certifications 5

 Technical data 5

 Rotex 10, 20, 70 5

 Characteristic curves 6

 Rotex 10, 20, 70; n = 2900 rpm 6

 Dimensions 7

 Rotex 10, 20, 70 7

 Accessories 8

 Pump accessories 8

 Alarm switchgears for pumps without ATEX 8

 Control unit/switchgear accessories 9

 Exploded views with lists of components 10

 Rotex 10, 20 10

 Rotex 70 11

Drainage / Waste Water

Grey Water and Condensate Pump

Rotex



Main applications

- Disposal
- Heating systems
- Drainage systems
- Drainage

Fluids handled

- Grey water
- Heating water
- Condensate
- River, lake and groundwater

Operating data

Operating properties

Characteristic		Value	
		Rotex 10, 20	Rotex 70
Flow rate	Q [m ³ /h]	≤ 24	
	Q [l/s]	≤ 6,67	
Head	H [m]	≤ 14	
Fluid temperature	T [°C]	≤ 90	≤ 70

Designation

Example: Rotex 10 / 100 D

Designation key

Code	Description	
Rotex	Type series	
10	Size	
	10	<ul style="list-style-type: none"> ▪ Heavy-duty design Rp 1 1/4, Rp 2 ▪ Two-channel impeller ▪ Level control with displacement weight
	20	<ul style="list-style-type: none"> ▪ Heavy-duty design Rp 2 ▪ Three-channel impeller ▪ Level control with displacement weight
70 ¹⁾	<ul style="list-style-type: none"> ▪ Light-duty design Rp 1 1/4, Rp 2 ▪ Open radial impeller ▪ Level control with float switch 	
100	Installation depth [cm]	
	100, 170 ²⁾	
D	Drive	
	D	Three-phase motor
	E	Single-phase AC motor

Design details

Design

- Centrifugal pump
- Single-stage
- To EN 12050-2
- Pump foot designed as inlet strainer
- Discharge to the top, parallel to the pump shaft
- Pump and motor rigidly connected via a support column
- Ready to be plugged in
- 1.5 m power cable

Installation type

- Vertical installation

Drive

- Surface-cooled three-phase motor, IP55
- Single-phase AC motor, IP54

Impeller type

Rotex 10:

- Two-channel impeller
- Free passage = 13 mm

Rotex 20:

- Three-channel impeller
- Free passage = 18 mm

Rotex 70:

- Open radial impeller
- Free passage = 10 mm

Bearings

- Product-lubricated plain bearing

1) Rotex size 70 cannot be used for condensate.

2) Rotex size 70 is only available up to an installation depth of 100 cm.

- Grease-packed deep groove ball bearings sealed for life

Automation

- Level control
- Pump operation is automatic, depending on the fluid level

Rotex 10, 20:

- Displacement weight with cable pull float switch control

Rotex 70:

- Float switch

Materials

Overview of available materials

Description	Material	
	Rotex 10, 20	Rotex 70
Discharge casing	Grey cast iron	-
Volute casing	-	Grey cast iron
Pump shaft for installation depth 100 cm	Steel	Steel
Pump shaft for installation depth 170 cm	Chrome steel	-
Pump foot	-	Grey cast iron
Impeller	Grey cast iron	Polyamide
Bearing housing	Grey cast iron	-
Bearing bush	Sinter bronze, steel PTFE/CuSn	
Pipe	Steel	
Flange	-	Grey cast iron
Casing wear ring	Bronze	-

Product benefits

- Ready-to-connect, easy installation and commissioning
- Automatic operation by level control with displacement weight or float switch
- Easy to install thanks to low weight, compact design and ready-to-connect system
- Maintenance-free thanks to grease-packed deep groove ball bearings sealed for life and product-lubricated plain bearings

Certifications

Overview

Label	Effective in:	Note
	Europe	All pump sizes

Technical data

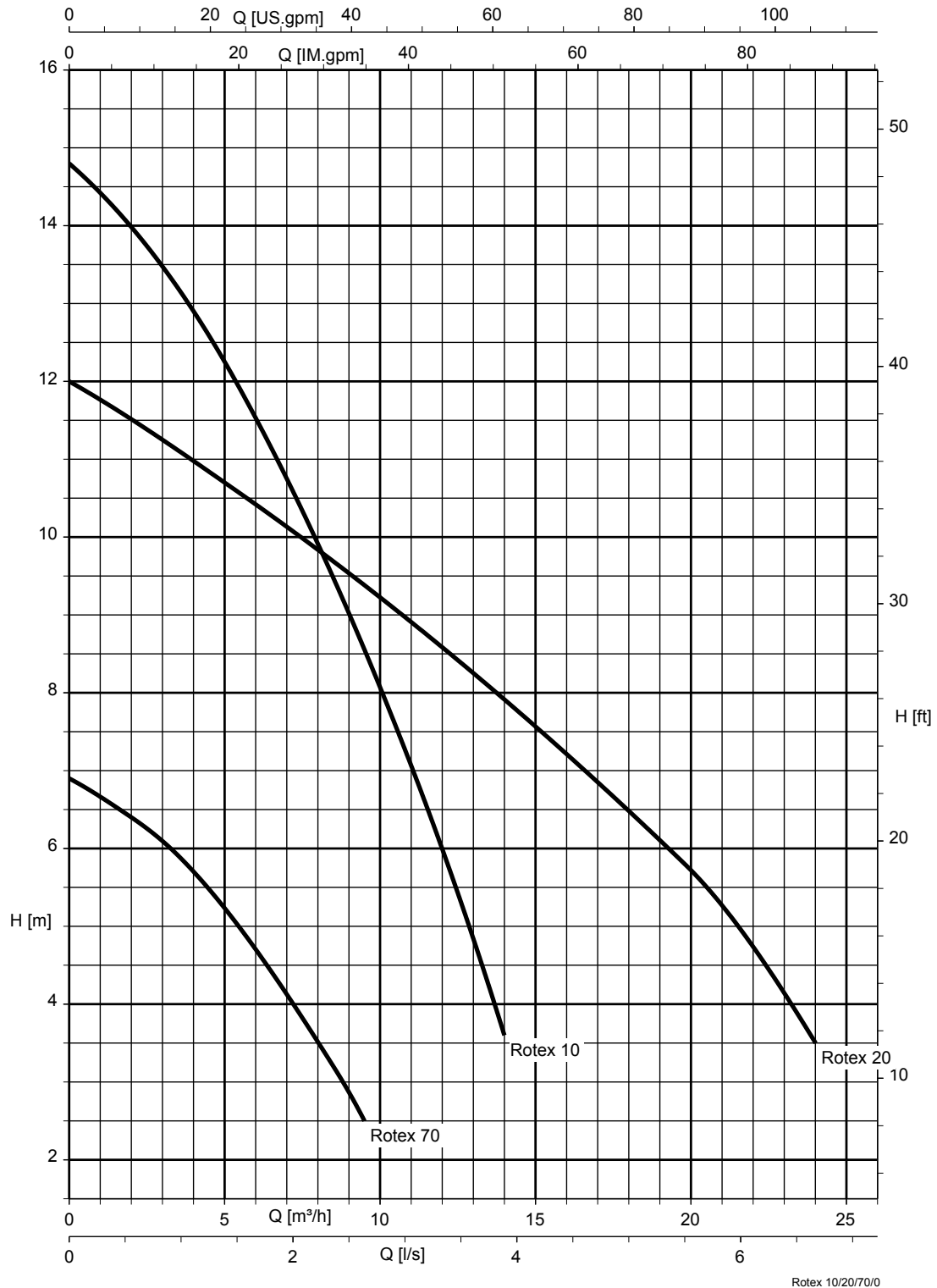
Rotex 10, 20, 70

Technical data

Size	Installation depth [cm]	Connection	P ₂ [kW]	I _N [A]		Mat. No.	[kg]
				1 ~ 230 V	3 ~ 400 V		
10/100 D	100	Rp 1¼	0,55	-	1,35	00529119	25
10/100 E	100	Rp 1¼	0,55	3,6	-	00529129	26
10/170 D	170	Rp 1¼	0,55	-	1,35	00529118	34
10/170 E	170	Rp 1¼	0,55	3,6	-	00529128	35
20/100 D	100	Rp 2	0,55	-	1,35	00529124	26
20/170 D	170	Rp 2	0,55	-	1,35	00529123	35
70 D	100	Rp 1¼	0,37	-	1,0	29101099	16
70 E	100	Rp 1¼	0,37	2,8	-	29101100	17

Characteristic curves

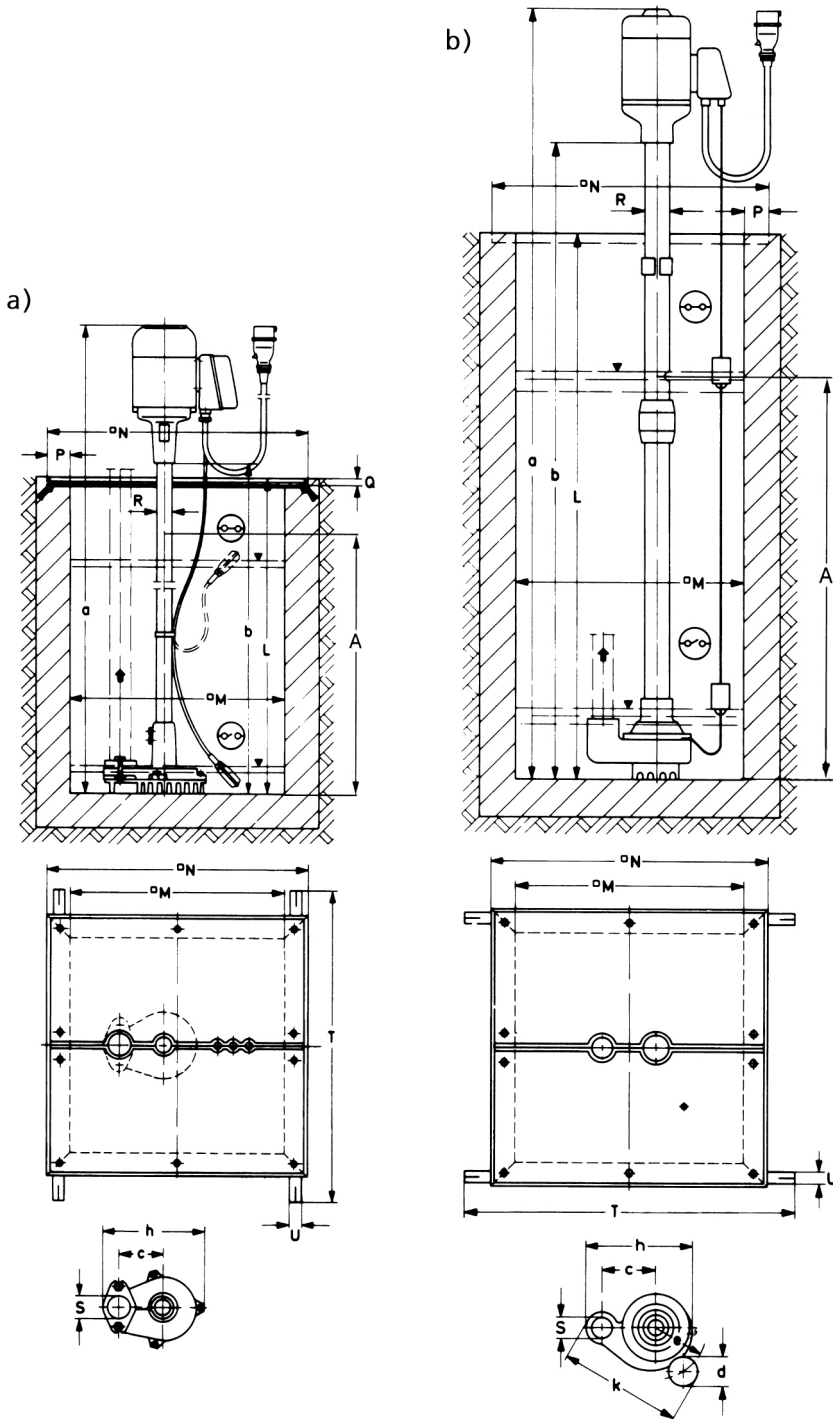
Rotex 10, 20, 70; n = 2900 rpm



Free passage: Rotex 10 = 10 mm; Rotex 20 = 13 mm; Rotex 70 = 18 mm

Dimensions

Rotex 10, 20, 70




Dimensions a) Rotex 70 b) Rotex 10, 20

Minimum water level (stop level)	Rotex 10, 20: 150 mm ³⁾ Rotex 70: 100 mm
Maximum water level (start-up level)	Rotex .../170: ≥ 1000 mm

3) If handling condensate: 400 mm





Dimensions [mm]

Rotex		a	b	c	d	e	h	k	A	L	M	N	P	Q	R	T	U
		10/100	Rp 1 1/4	1363	1069	106	60	110	220	242	180	1000	500	560	30	20	60
10/170	Rp 1 1/4	2085	1791	106	60	110	220	242	1050	1700	500	560	30	20	60	660	20
20/100	Rp 2	1370	1076	117	60	110	240	270	180	1000	500	560	30	20	60	660	20
20/170	Rp 2	2092	1798	117	60	110	240	270	1050	1700	500	560	30	20	60	660	20
70	Rp 1 1/4	1342	1046	97	-	-	215	-	590	1000	500	560	30	20	33,8	660	20

Accessories



Pump accessories




Pump accessories

	Item	Description	Connection	Rotex			Mat. No.	[kg]
				10	20	70		
	P10	RK swing check valve Plastic, EN 12 050-4, with internal thread ISO 7/1, full port and drain plug; cannot be used for pumped drainage	Rp 1 1/4	X	-	X	01009771	0.1
			Rp 2	-	X	-	01009773	0.5
		Swing check valve ISO 7/1, made of gunmetal (225 °C max.)	Rp 2	-	X	-	00430260	2.5
	P11	Socket gate valve CuZn PN 10-12 DIN 3352 With internal thread / internal thread and full port	Rp 1 1/4	X	-	X	01014219	0.627
			Rp 2	-	X	-	00411503	1.287
	P18	Cover plate, steel Tread-proof, split, with profile joints and angle iron mounting frame (type A 560) for 500 x 500 mm pits (Dual-pump stations with P13 Y-pipe are equipped with 2 cover plates next to each other.)	Rp 1 1/4	-	-	X	18075627	13

Alarm switchgears for pumps without ATEX





AS 0/AS 1/AS 2/AS 4/AS 5

	Item	Description	Mat. No.	[kg]
	E50	Alarm switchgear AS 0 With circuit breaker, acoustic signal transmitter with 85 dB(A), green equipment-on lamp Plastic housing IP20, 140 x 80 x 57 mm. Use float switch, F1 moisture sensor (item E64), M1 alarm contactor or signal relay of control unit as contactor.	29128401	0.5
	E51	Alarm switchgear AS 2 With circuit breaker, acoustic signal with 85 dB(A), green equipment-on lamp, volt-free contact for hook-up to a control station Plastic housing IP 20, 140 x 80 x 57 mm. Use float switch, F1 moisture sensor (item E 64) or signal relay of control unit as contactor.	29128422	0.5


	Item	Description	Mat. No.	[kg]
	E52	Alarm switchgear AS 4 With circuit breaker, acoustic signal transmitter with 85 dB(A), green equipment-on lamp, volt-free contact for hook-up to a control station, self-charging power supply unit for 5 hours of operation in the event of a power failure Plastic housing IP20, 140 x 80 x 57 mm. Use float switch (E60), F1 moisture sensor (item E64) or signal relay of control unit as contactor.	29128442	0.5
	E53	Alarm switchgear AS 5 Mains-independent, with self-charging power supply unit for 10 hours of operation in the event of a power failure, mains pilot LED, fault indicator light, horn-off push button, volt-free contact for hook-up to a control station, ready for connection with 1.8 m connection cable and plug. ISO housing IP41, 190 x 165 x 75 mm. Use float switch (E60) or signal relay of control unit as contactor.	00530561	1.7
	E55	Alarm switchgear AS 1 In IP30 ISO plug housing, mains-independent, with self-charging power supply unit for 5 hours of operation in the event of a power failure, acoustic signal transmitter 70 dB(A) with circuit breaker and integrated signal transmitter with 3-metre connection cable, max. 60 °C, not suitable for steam and condensate. 1. High water alert by suspending the moisture sensor in a (pump) sump above the pump start-up point. 2. Water alarm signal at a water level of only 1 mm (!), by placing the contactor on the floor of rooms at risk of flooding, e.g. the cellar or next to the washing machine in the kitchen or bathroom.	00533740	0.9

Control unit/switchgear accessories

Alarm equipment for alarm switchgear AS 5

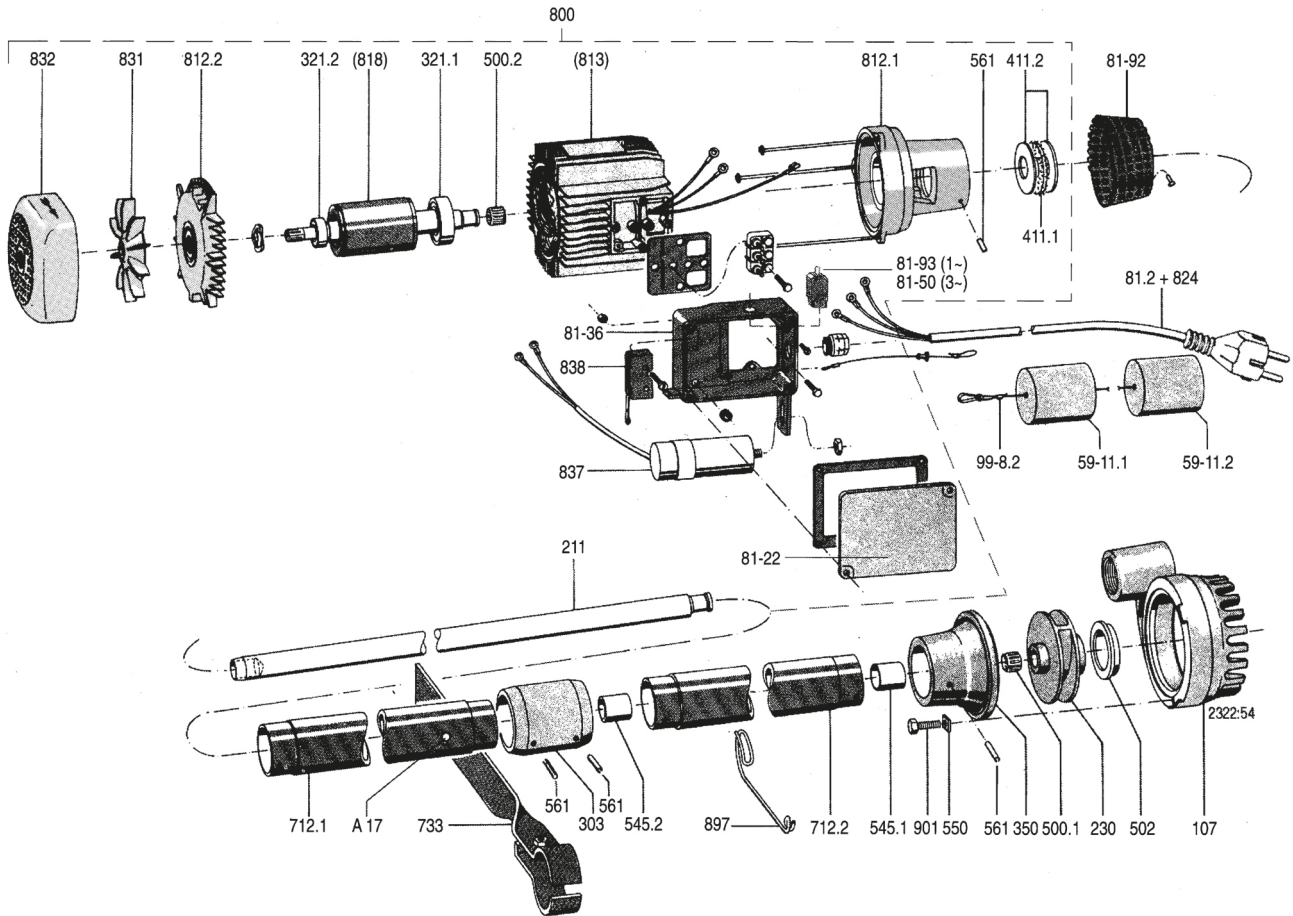
	Description	Mat. No.	[kg]
	Yellow alarm strobe light, 12 V DC, 195 mA, IP65	01056355	0.3
	Plastic housing, (W) 82 × (H) 55 × (D) 106.5 [mm], IP65, for easier installation of alarm strobe light, for wall-mounting	01061067	0.2
	Horn, 12 V DC, 105 dB, 150 mA, IP54, with 0.45 m connection cable	01086547	0.1
	Alarm combination (yellow alarm strobe light and piezo buzzer 92 dB), 12 V DC, 120 mA, IP65	01139930	0.1

Control unit/switchgear accessories -  for Rotex 70 only!

	Item	Description	Type	Mat. No.	[kg]
	E60	Float switch with free cable end (NO contact) Switch housing made of polypropylene (max. fluid temperature 70 °C), circuit closed in upper float position, power cable (H07RN-F 3G1)	5	11037743	0.8
			10 m	11037744	1.3
			20 m	11037746	2.4

Exploded views with lists of components

Rotex 10, 20



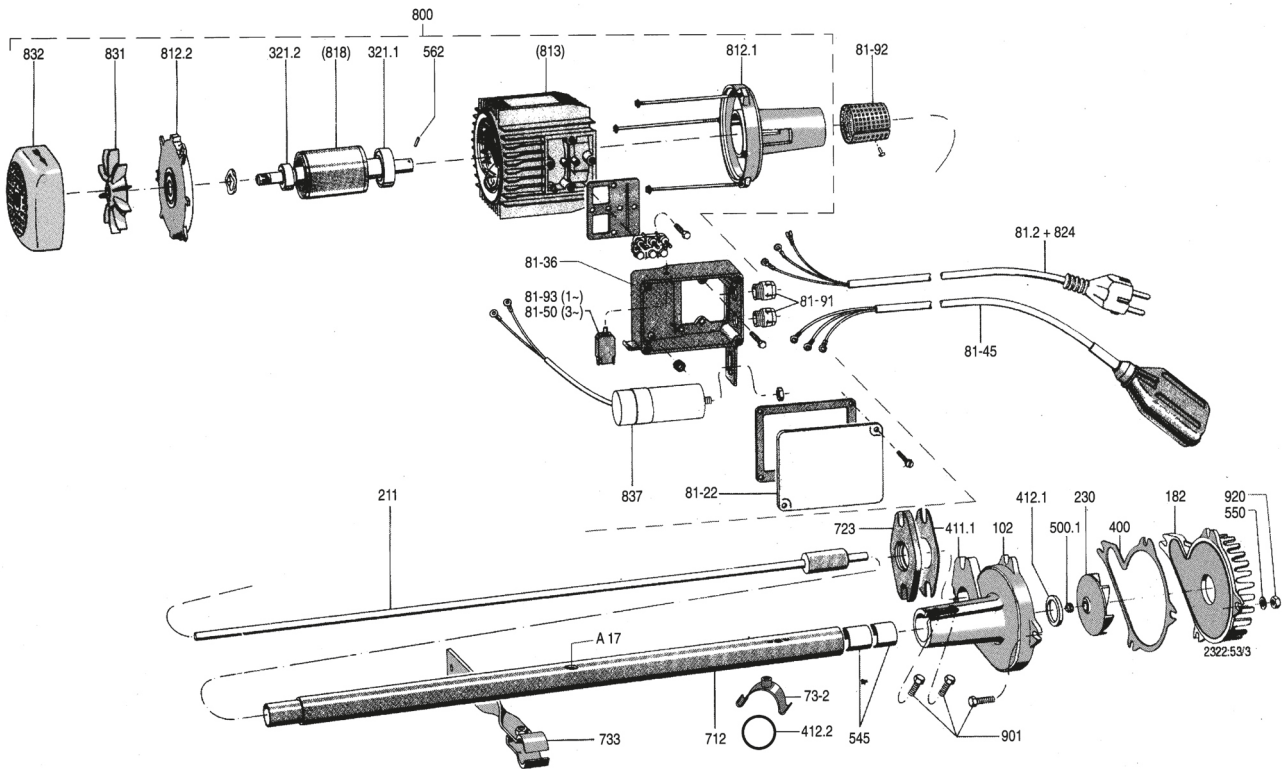
Exploded view - Rotex 10, 20 () = Not available as a separate spare part

List of components

Part No.	Description	Part No.	Description
107	Discharge casing	81-22	Terminal box cover
211	Pump shaft	81-36	Terminal box base
230	Impeller	81-50	Contactar
303 ⁴⁾	Thrust and radial bearing	81-92	Cover plate
321.1/2	Radial ball bearing	81-93	Protective switch
350	Bearing housing	812.1/2	Motor housing cover
411.1/2	Joint ring	813	Stator core pack
500.1/2	Ring	818	Rotor
502	Casing wear ring	824	Cable
545.1/2 ⁴⁾	Bearing bush	831	Fan impeller
550	Disc	832	Fan hood
561	Grooved pin	837	Capacitor
59-11.1/2	Weight	838	Switch
712.1/2 ⁴⁾	Support column	897	Guide piece
733	Pipe clamp	901	Hexagon head bolt
800	Motor	99-8.2	Thread
81-2	Plug	A 17	Overflow hole

⁴⁾ Only included for installation depth 170 cm.

Rotex 70



Exploded view - Rotex 70 () = Not available as a separate spare part

List of components

Part No.	Description	Part No.	Description
102	Volute casing	81-22	Terminal box cover
182	Foot	81-36	Terminal box base
211	Pump shaft	81-45	Float switch
230	Impeller	81-50	Contactar
321.1/2	Radial ball bearing	81-91	Cable gland
400	Gasket	81-92	Cover plate
411.1	Joint ring	81-93	Protective switch
412.1/2	O-ring	812.1/2	Motor housing cover
500.1	Ring	813	Stator core pack
545	Bearing bush	818	Rotor
550	Disc	824	Cable
562	Parallel pin	831	Fan impeller
712	Support column	832	Fan hood
723	Flange	837	Capacitor
73-2	Hose connection	901	Hexagon head bolt
733	Pipe clamp	920	Nut
800	Motor	A 17	Overflow hole
81-2	Plug		



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18.08.2015

2322.5/03-EN