Cooling shrouds

Applications

A cooling shroud will typically reduce the temperature of a submersible borehole pump motor by 10 °C. We recommend to use a cooling shroud for the following operating conditions:

If the submersible motor is subjected to thermal stresses.

Thermal stresses may be caused by:
- undervoltage
  (outside the voltage range specified by the manufacturer),
- current asymmetry (current consumption by individual phases differs by more than ±5%),
- overload,
- high temperature of surrounding fluid,
- insufficient flow velocity of the cooling fluid past the motor,
- insufficient motor cooling (dirt deposits or sedimentation on the motor).

If aggressive fluids are handled.

Because corrosion speed is halved with every temperature reduction of approx. 10 °C.

Use of an additional suction strainer to remove coarse contamination from the fluid.

- protects against leaves being sucked in or other coarse contamination in the water.
- reduces suction-side vortex formation.

As the connection between the cooling shroud and the pump is not completely tight (not pressure-/vacuum-proof), the cooling shroud cannot be used as suction shroud. The submersible borehole pump with cooling shroud must be fully submerged in the water at all times.

Operating data

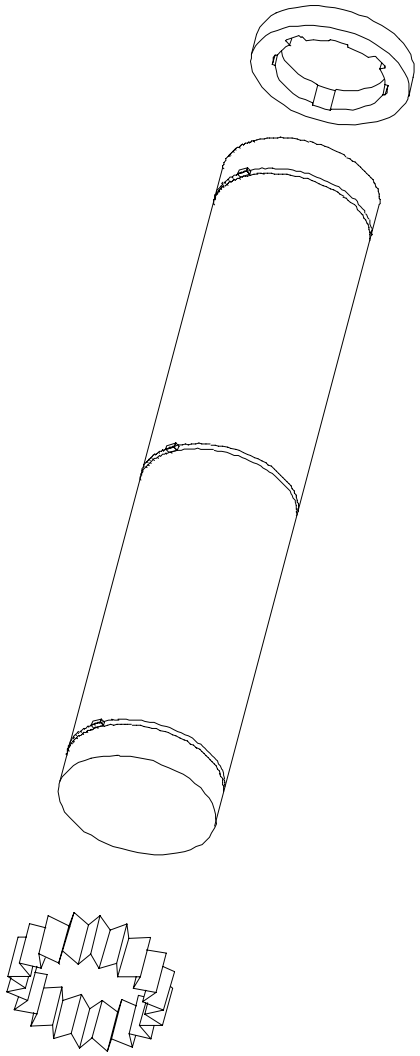
Capacities	Q	up to	840 m^3/h (234 l/s)
Head	H	up to	480 m
Temperature of fluid pumped	T	up to	+50 °C
Inlet pressure (shroud)	Pinl	up to	5 bar

Design

Cooling shrouds for submersible borehole pumps consist of a stainless sheet shroud mounted on the pump motor. The shroud directs the fluid drawn in by the pump along the motor surface and thus cools the motor.
Cooling shrouds can be fitted both on vertically and horizontally installed submersible borehole pumps. (Accessories for horizontal installation: support feet)
For permissible installation positions (vertical / horizontal) of individual pump sizes please refer to the relevant tables in the type series booklet on submersible borehole pumps.
The cooling shroud is dimensioned so that the flow velocity of the water past the motor is typically between 0.2 m/s and 1.5 m/s, which ensures optimum pump operation. The fluid flows through special spacer rings fitted on the motor bearing, so that the motor is cooled right from the axial bearing at the end of the motor.
The shroud is positioned on the motor via this spacer ring and a profile joint fitted behind the pump suction chamber, resulting in a space where the fluid flows past the motor towards the pump's suction opening.

**Cooling shroud
for submersible borehole pumps
UPA and S100B**

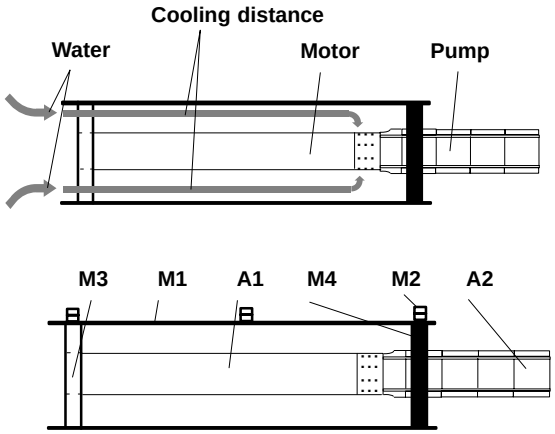
50 Hz



Certification

Quality management certified to ISO 9001

1 Description of cooling shroud



1.1 Description of cooling shroud

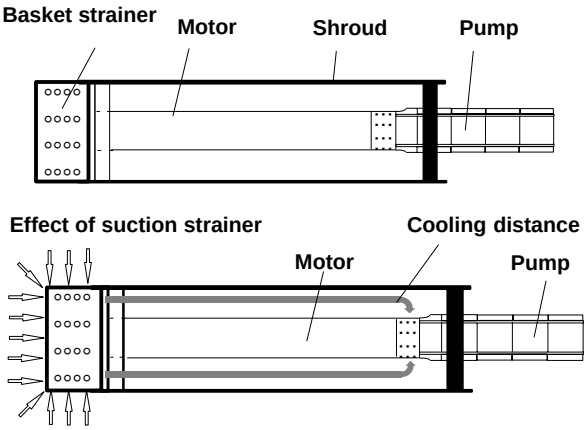
The cooling shroud consists of a stainless steel sheet (M1) shaped into a tube form from a flat blank. Straps (M2) are used to fit this shroud onto the spacer ring fastened on the motor (A1) and the profile joint fastened on the pump (A2), respectively. The shroud is thus firmly connected to the pump unit.
The spacer ring (M3) made of stainless steel sheet is slipped onto the motor. The profile joint (M4) is positioned on the first pump stage behind the pump inlet.
The profile ring is designed so that the recesses for the cable guides can be adapted during installation. The profile ring sufficiently seals off the shroud towards the pump end, so that the main flow of the pumped water is guided through the spacer ring and along the motor inside the shroud.

1.2 Materials

Component	Material
Spacer ring	1.4301
Shroud	1.4301
Straps	1.4541
Profile joint	SBR / NBR

Special material variants 1.4571 / 1.4404 and 1.4539 available on request.

2 Accessories



2.1 Suction strainer

The strainer is made of perforated stainless steel sheet. It can be ordered as an option or retrofitted on the mounted cooling shroud.
The fluid is drawn into the shroud opening through the numerous strainer holes. At low water levels, the suction strainer thus reduces the formation of vortexes and holds back coarse contamination from the fluid (protection against leaves).

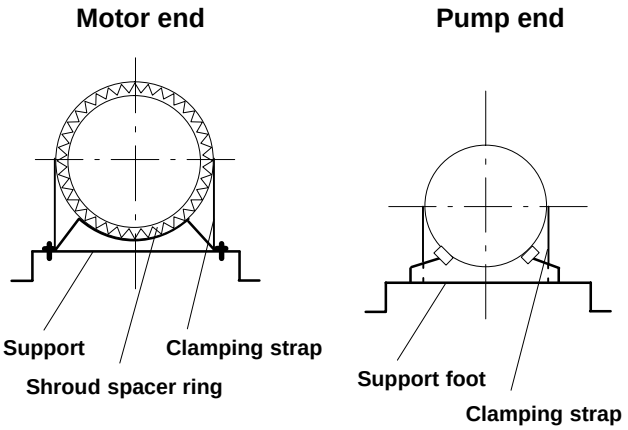
2.2 Strainer materials

Component	Material
Basket strainer	1.4301
Straps	1.4541 / W4

Special material variants 1.4571 and 1.4539 available on request.

2.3 Support feet

Horizontally installed submersible borehole pumps with cooling shrouds can be installed on support feet.
Depending on the pump type, 2 to 3 of these pre-formed supports are mounted on the floor. The pump is held on the support feet by stainless steel clamping straps.
The support feet are shaped to accept the pump (motor / pump profile) and the cooling shroud, thus ensuring a stable, level position of the pump unit and cooling shroud.

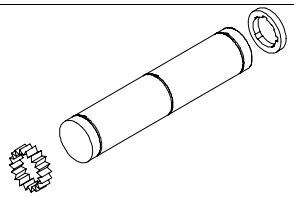
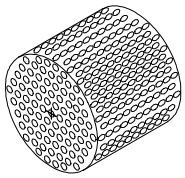
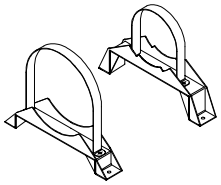


Support foot materials

Component	Material
Support foot	1.4301
Clamping strap	1.4301
Bolts	A2

Special material variants 1.4571 and 1.4539 available on request.

3 Pump / Accessories combinations

		
Cooling shroud made of stainless steel sheet 1.4301 with straps in 1.4541. Spacer ring made of stainless steel sheet 1.4301. Sealing ring made of SBR/NBR rubber with recesses for motor cable.	Suction strainer made of perforated stainless steel sheet 1.4301 and strap made of 1.4541.	Support feet for horizontal installation, made of stainless steel sheet 1.4301, and bolts made of 1.4541.

CAUTION:
Verify permissible installation position (vertical / horizontal) of the submersible borehole pump (see relevant tables in the type series booklet on submersible borehole pumps).

Suitable for submersible borehole pump:		Description	Cooling shroud	Strainer	Support feet
		Dimensions (dia. x length) and motor type (kW)	KSB type	KSB type	KSB type
S 100B - 1 / 7-30 S 100B - 2 / 7-15 S 100B - 4 / 4-9 S 100B - 7 / 5	(DN100) (DN100) (DN100) (DN100)	Ø 115 (130) x 400 Motor DN100 up to 0.75kW (1~) or up to 0.75kW (3~). Weight 1.5 kg	KM10.11.04.1 Ident. No. 90 065 490	Ø 115 x 117 Weight 0.3 kg KS11 Ident. No. 90 065 494	(set = 2 pcs.) Weight 0.6 kg KA10.11.2 Ident. No. 90 065 495
S 100B - 1 / 35-50 S 100B - 2 / 18-30 S 100B - 4 / 12-17 S 100B - 7 / 7-9 S 100B - 12 / 4-6	(DN100) (DN100) (DN100) (DN100) (DN100)	Ø 115 (130) x 500 Motor DN100 up to 1.5kW (1~) or up to 1.5kW (3~). Weight 1.7 kg	KM10.11.04.2 Ident. No. 90 065 491		
S 100B - 2 / 33-50 S 100B - 4 / 22-35 S 100B - 7 / 12-19 S 100B - 12 / 10-13	(DN100) (DN100) (DN100) (DN100)	Ø 115 (130) x 625 Motor DN100 up to 2.2kW (1~) or up to 3.0kW (3~). Weight 2.0 kg	KM10.11.04.3 Ident. No. 90 065 492		
S 100B - 4 / 42 S 100B - 7 / 25-35 S 100B - 12 / 17-25	(DN100) (DN100) (DN100)	Ø 115 (130) x 800 Motor DN100 up to 5.5kW (3~). Weight 2.5 kg	KM10.11.04.4 Ident. No. 90 065 493		
UPA 100C - 2 / 6-13 UPA 100C - 3 / 6-9 UPA 100C - 4 / 4-7 UPA 100C - 7 / 3-4	(DN100) (DN100) (DN100) (DN100)	Ø 115 (130) x 400 Motor DN100 up to 0.55kW (1~) or up to 0.55kW (3~). Weight 1.5 kg	KM11.11.04.1 Ident. No. 90 066 478	Ø 115 x 117 Weight 0.3 kg KS11 Ident. No. 90 065 494	(set = 2 pcs.) Weight 0.6 kg KA11.11.1 Ident. No. 90 066 483
UPA 100C - 2 / 17-35 UPA 100C - 3 / 12-25 UPA 100C - 4 / 9-19 UPA 100C - 7 / 6-13 UPA 100C - 12 / 3-5	(DN100) (DN100) (DN100) (DN100) (DN100)	Ø 115 (130) x 500 Motor DN100 up to 1.5kW (1~) or up to 1.5kW (3~). Weight 1.8 kg	KM11.11.04.2 Ident. No. 90 066 479		
UPA 100C - 2 / 40-72 UPA 100C - 3 / 30-51 UPA 100C - 4 / 24-39 UPA 100C - 7 / 16-26 UPA 100C - 12 / 8-10	(DN100) (DN100) (DN100) (DN100) (DN100)	Ø 115 (130) x 620 Motor DN100 up to 2.2kW (1~) or up to 3.0kW (3~). Weight 2.0 kg	KM11.11.04.3 Ident. No. 90 066 480		
UPA 100C - 3 / 57-68 UPA 100C - 4 / 45-54 UPA 100C - 7 / 29-34 UPA 100C - 12 / 13-14	(DN100) (DN100) (DN100) (DN100)	Ø 115 (130) x 800 Motor DN100 up to 4.0kW (3~). Weight 2.5 kg	KM11.11.04.4 Ident. No. 90 066 481		
UPA 100C - 4 / 60-72 UPA 100C - 7 / 39-64 UPA 100C - 12 / 17-27	(DN100) (DN100) (DN100)	Ø 115 (130) x 1000 Motor DN100 up to 7.5kW (3~). Weight 3.0 kg	KM11.11.04.5 Ident. No. 90 066 482		(set = 2 pcs.) Weight 1.4 kg KA11.11.2 Ident. No. 90 066 484
UPA 150S - 12 / 2-4 UPA 150S - 20 / 2 UPA 150S - 34 / 1-2 UPA 150S - 48 / 1	(DN100) (DN100) (DN100) (DN100)	Ø 160 (180) x 500 Motor DN100 up to 2.2kW (3~). Weight 2.7 kg	KM15.16.04.1	Ø 160 x 158 Weight 0.5 kg KS16	(set = 2 pcs.) Weight 2.1 kg KA15.16.2
UPA 150S - 12 / 5-7 UPA 150S - 20 / 3-4 UPA 150S - 34 / 3 UPA 150S - 48 / 2	(DN100) (DN100) (DN100) (DN100)	Ø 160 (180) x 800 Motor DN100 up to 3.9kW (3~). Weight 3.9 kg	KM15.16.04.2	Ø 160 x 158 Weight 0.5 kg KS16	(set = 2 pcs.) Weight 2.1 kg KA15.16.2
UPA 150S - 12 / 8-10 UPA 150S - 20 / 5-7 UPA 150S - 34 / 4-5 UPA 150S - 48 / 3	(DN100) (DN100) (DN100) (DN100)	Ø 160 (180) x 1000 Motor DN100 up to 5.5kW (3~). Weight 4.8 kg	KM15.16.04.3		
UPA 150S - 12 / 11-20 UPA 150S - 20 / 8-14	(DN150) (DN150) (DN150)	Ø 160 (180) x 800 Motor DN150 up to 11kW (3~). Weight 4.1 kg	KM15.16.06.1		
UPA 150S - 12 / 23-28 UPA 150S - 20 / 15-28	(DN150) (DN150)	Ø 160 (180) x 1000 Motor DN150 up to 22kW (3~). Weight 5.3 kg	KM15.16.06.2		(set = 3 pcs.) Weight 3.1 kg KA15.16.3

Suitable for submersible borehole pump:		Description	Cooling shroud	Strainer	Support feet
		Dimensions (dia. x length) and motor type (kW)	KSB type	KSB type	KSB type
UPA 150S - 65 / 1	(DN100)	Ø 180 (200) x 500 Motor DN100 up to 2.2kW (3~). Weight 3.7 kg	KM15.18.04.1	Ø 180 x 192 Weight 0.6 kg KS18	(set = 2 pcs.) Weight 2.4 kg KA15.18.2
UPA 150S - 65 / 2	(DN100)	Ø 180 (200) x 1000 Motor DN100 up to 5.5kW (3~). Weight 6.0 kg	KM15.18.04.2		
UPA 150S - 12 / 11-14 UPA 150S - 20 / 8-9 UPA 150S - 34 / 6-7	(UMA 150D) (UMA 150D) (UMA 150D)	Ø 180 (200) x 800 Motor UMA150D up to 7.5kW (3~). Weight 5.4 kg	KM15.18.07.1		
UPA 150S - 34 / 6-10 UPA 150S - 48 / 4-6	(DN150) (DN150)	Ø 180 (200) x 800 Motor DN150 up to 11kW (3~). Weight 5.5 kg	KM15.18.06.1		
UPA 150S - 12 / 15-28 UPA 150S - 20 / 10-23 UPA 150S - 34 / 8-17	(UMA 150D) (UMA 150D) (UMA 150D)	Ø 180 (200) x 1000 Motor UMA150D up to 18.5kW (3~). Weight 7.4 kg	KM15.18.07.2		(set = 3 pcs.) Weight 3.6 kg KA15.18.3
UPA 150S - 34 / 11-21 UPA 150S - 48 / 7-12	(DN150) (DN150)	Ø 180 (200) x 1000 Motor DN150 up to 22kW (3~). Weight 7.6 kg	KM15.18.06.2		
UPA 150S - 20 / 28 UPA 150S - 34 / 19-21	(UMA 150D) (UMA 150D)	Ø 180 (200) x 1250 Motor UMA150D up to 22kW (3~). Weight 8.6 kg	KM15.18.07.3		
UPA 150S - 48 / 4 UPA 150S - 65 / 3	(UMA 150D) (UMA 150D)	Ø 200 (220) x 800 Motor UMA150D up to 7.5kW. Weight 6.4 kg	KM15.20.07.1	Ø 200 x 192 Weight 0.8 kg KS20	(set = 2 pcs.) Weight 2.7 kg KA15.20.2
UPA 150S - 65 / 3-5	(DN150)	Ø 200 (220) x 800 Motor DN150 up to 11kW. Weight 6.4 kg	KM15.20.06.1		
UPA 150S - 48 / 5-10 UPA 150S - 65 / 4-9	(UMA 150D) (UMA 150D)	Ø 200 (220) x 1000 Motor UMA150D up to 18.5kW. Weight 7.4 kg	KM15.20.07.2		
UPA 150S - 65 / 6-11	(DN150)	Ø 200 (220) x 1000 Motor DN150 up to 22kW. Weight 7.4 kg	KM15.20.06.2		
UPA 150S - 48 / 11-13 UPA 150S - 65 / 10-13	(UMA 150D) (UMA 150D)	Ø 200 (220) x 1250 Motor UMA150D up to 26kW. Weight 10.2 kg	KM15.20.07.3		(set = 3 pcs.) Weight 4.0 kg KA15.20.3
UPA 150S - 48 / 15-17 UPA 150S - 65 / 14-18	(UMA 150D) (UMA 150D)	Ø 200 (220) x 1400 Motor UMA150D up to 37kW. Weight 11.0 kg	KM15.20.07.4		
UPA 200 - 11 / 1e-3 UPA 200 - 14 / 1e-2	(UMA 150D) (UMA 150D)	Ø 210 (230) x 900 Motor UMA150D up to 9kW. Weight 7.0 kg	KM20.21.07.1	Ø 210 x 192 Weight 0.8 kg KS21	(set = 2 pcs.) Weight 2.6 kg KA20.21.2
UPA 200 - 11 / 4c-5b UPA 200 - 14 / 3d-3	(UMA 150D) (UMA 150D)	Ø 210 (230) x 1000 Motor UMA150D up to 13kW. Weight 7.6 kg	KM20.21.07.2		
UPA 200 - 11 / 5-7 UPA 200 - 14 / 4c-6c	(UMA 150D) (UMA 150D)	Ø 210 (230) x 1250 Motor UMA150D up to 22kW. Weight 9.0 kg	KM20.21.07.3		
UPA 200 - 11 / 8-13 UPA 200 - 14 / 6-9	(UMA 150D) (UMA 150D)	Ø 210 (230) x 1500 Motor UMA150D up to 37kW. Weight 12.0 kg	KM20.21.07.4		(set = 3 pcs.) Weight 3.9 kg KA20.21.3
UPA 200B - 80 / 1g-1 UPA 200B - 130 / 1g-1	(UMA 150D) (UMA 150D)	Ø 256 (270) x 900 Motor UMA150D up to 9kW. Weight 10.0 kg	KM20.25.07.1	Ø 256 x 325 Weight 1.5 kg KS25	(set = 2 pcs.) Weight 4.8 kg KA20.25.2
UPA 200B - 80 / 2g-2f UPA 200B - 130 / 2g-2e	(UMA 150D) (UMA 150D)	Ø 256 (270) x 1000 Motor UMA150D up to 13kW. Weight 10.8 kg	KM20.25.07.2		
UPA 200B - 80 / 2d-3 UPA 200B - 130 / 2d-3c	(UMA 150D) (UMA 150D)	Ø 256 (270) x 1250 Motor UMA150D up to 22kW. Weight 12.4 kg	KM20.25.07.3		
UPA 200B - 80 / 4e-5 UPA 200B - 130 / 3b-5b	(UMA 150D) (UMA 150D)	Ø 256 (270) x 1500 Motor UMA150D up to 37kW. Weight 16.9 kg	KM20.25.07.4		(set = 3 pcs.) Weight 7.2 kg KA20.25.3
UPA 200B - 11 / 14-5 UPA 200B - 14 / 10-13 UPA 200B - 80 / 6c-8c	(UMA 200D) (UMA 200D) (UMA 200D)	Ø 256 (270) x 1500 Motor UMA 200D up to 55kW. Weight 15.5 kg	KM20.25.08.1		
UPA 200B - 80 / 8-10	(UMA 200D)	Ø 256 (270) x 1750 Motor UMA 200D up to 75kW. Weight 17.2 kg	KM20.25.08.2		
UPA 200B - 80 / 11-12	(UMA 200D)	Ø 256 (270) x 1900 Motor UMA 200D up to 90kW. Weight 18.2 kg	KM20.25.08.3		

Suitable for submersible borehole pump:		Description	Cooling shroud	Strainer	Support feet
		Dimensions (dia. x length) and motor type (kW)	KSB type	KSB type	KSB type
UPA 200B - 130 / 5-7b	(UMA 200D)	Ø 285 (300) x 1500 Motor UMA 200D up to 55kW. Weight 19.2 kg	KM20.28.08.1	Ø 285 x 385 Weight 1.9 kg KS28	(set = 3 pcs.) Weight 7.9 kg KA20.28.3
UPA 200B - 130 / 7-9	(UMA 200D)	Ø 285 (300) x 1800 Motor UMA 200D up to 75kW. Weight 21.5 kg	KM20.28.08.2		
UPA 200B - 130 / 10-11	(UMA 200D)	Ø 285 (300) x 2000 Motor UMA 200D up to 90kW. Weight 22.9 kg	KM20.28.08.3		
UPA 250C - 120 / 1l	(UMA 150D)	Ø 285 (300) x 1000 Motor UMA 150D up to 9kW. Weight 12.6 kg	KM25.28.07.1	Ø 285 x 385 Weight 1.9 kg KS28	(set = 2 pcs.) Weight 5.4 kg KA25.28.2
UPA 250C - 120 / 1k-2l UPA 250C - 150 / 1l-1	(UMA 150D) (UMA 150D)	Ø 285 (300) x 1250 Motor UMA 150D up to 22kW. Weight 14.4 kg	KM25.28.07.2		
UPA 250C - 120 / 2k-2d UPA 250C - 150 / 2k-2h	(UMA 150D) (UMA 150D)	Ø 285 (300) x 1500 Motor UMA 150D up to 30kW. Weight 20.2 kg	KM25.28.07.3	Ø 285 x 385 Weight 1.9 kg KS28	(set = 3 pcs.) Weight 8.0 kg KA25.28.3
UPA 250C - 120 / 2-3f UPA 250C - 150 / 2f-2c	(UMA 150D) (UMA 150D)	Ø 285 (300) x 1800 Motor UMA 150D up to 37kW. Weight 22.4 kg	KM25.28.07.4		
UPA 250C - 120 / 3e-3c	(UMA 200D)	Ø 285 (300) x 1500 Motor UMA 200D up to 55kW. Weight 18.6 kg	KM25.28.08.1		
UPA 250C - 120 / 3-5c	(UMA 200D)	Ø 285 (300) x 1800 Motor UMA 200D up to 75kW. Weight 20.9 kg	KM25.28.08.2		
UPA 250C - 120 / 5-6c	(UMA 200D)	Ø 285 (300) x 2000 Motor UMA 200D up to 90kW. Weight 22.4 kg	KM25.28.08.3		
UPA 250C - 250 / 1m-1f	(UMA 150D) (UMA 150D)	Ø 330 (350) x 1250 Motor UMA 150D up to 22kW. Weight 17.9 kg	KM25.33.07.1	Ø 330 x 385 Weight 2.3 kg KS33	(set = 2 pcs.) Weight 6.1 kg KA25.33.2
UPA 250C - 250 / 1	(UMA 150D) (UMA 150D)	Ø 330 (350) x 1500 Motor UMA 150D up to 26kW. Weight 24.8 kg	KM25.33.07.2		(set = 3 pcs.) Weight 9.0 kg KA25.33.3
UPA 250C - 250 / 2m-2g	(UMA 150D)	Ø 330 (350) x 1800 Motor UMA 150D up to 37kW. Weight 27.4 kg	KM25.33.07.3		
UPA 250C - 150 / 2-3h UPA 250C - 250 / 2d	(UMA 200D) (UMA 200D)	Ø 330 (350) x 1500 Motor UMA 200D up to 45kW. Weight 23.9 kg	KM25.33.08.1		
UPA 250C - 150 / 3g-3 UPA 250C - 250 / 2-3f	(UMA 200D) (UMA 200D)	Ø 330 (350) x 1800 Motor UMA 200D up to 65kW. Weight 26.5 kg	KM25.33.08.2		
UPA 250C - 150 / 4e-4 UPA 250C - 250 / 3d-4e	(UMA 200D) (UMA 200D)	Ø 330 (350) x 2000 Motor UMA 200D up to 90kW. Weight 28.2 kg	KM25.33.08.3		
UPA 250C - 120 / 6 UPA 250C - 150 / 5c-5	(UMA 250D) (UMA 250D)	Ø 330 (350) x 1800 Motor UMA 250D up to 110kW. Weight 26.0 kg	KM25.33.10.1		
UPA 250C - 120 / 7-8 UPA 250C - 150 / 6c-6	(UMA 250D) (UMA 250D)	Ø 330 (350) x 2000 Motor UMA 250D up to 132kW. Weight 27.0 kg	KM25.33.10.2		
UPA 250C - 120 / 9-12b UPA 250C - 150 / 7b-9	(UMA 250D) (UMA 250D)	Ø 330 (350) x 2250 Motor UMA 250D up to 190kW. Weight 29.0 kg	KM25.33.10.3		
UPA 250C - 250 / 4c-5e	(UMA 250D)	Ø 380 (400) x 1800 Motor UMA 250D up to 110kW. Weight 48.0 kg	KM25.38.10.1	Ø 380 x 385 Weight 2.4 kg KS38	(set = 3 pcs.) Weight 9.9 kg KA25.38.3
UPA 250C - 250 / 5c-6d	(UMA 250D)	Ø 380 (400) x 2000 Motor UMA 250D up to 132kW. Weight 51.0 kg	KM25.38.10.2	Ø 380 x 385 Weight 2.4 kg KS38	(set = 3 pcs.) Weight 9.9 kg KA25.38.3
UPA 250C - 250 / 6-8	(UMA 250D)	Ø 380 (400) x 2250 Motor UMA 250D up to 190kW. Weight 54.0 kg	KM25.38.10.3	Ø 380 x 385 Weight 2.4 kg KS38	(set = 3 pcs.) Weight 9.9 kg KA25.38.3
UPA 300 - 65 / 1n-2m	(UMA 200D)	Ø 380 (400) x 1500 Motor UMA 200D up to 45kW. Weight 47.0 kg	KM30.38.08.1	Ø 380 x 385 Weight 2.4 kg KS38	(set = 3 pcs.) Weight 9.9 kg KA30.38.3
UPA 300 - 65 / 2l-3k	(UMA 200D)	Ø 380 (400) x 1800 Motor UMA 200D up to 75kW. Weight 51.0 kg	KM30.38.08.2	Ø 380 x 385 Weight 2.4 kg KS38	(set = 3 pcs.) Weight 9.9 kg KA30.38.3

Suitable for submersible borehole pump:		Description	Cooling shroud	Strainer	Support feet
		Dimensions (dia. x length) and motor type (kW)	KSB type	KSB type	KSB type
UPA 300 - 65 / 3h-3e	(UMA 200D)	Ø 380 (400) x 2000 Motor UMA 200D up to 90kW. Weight 54.0 kg	KM30.38.08.3	Ø 380 x 385 Weight 2.4 kg KS38	(set = 3 pcs.) Weight 9.9 kg KA30.38.3
UPA 300 - 65 / 3d-4g	(UMA 250D)	Ø 380 (400) x 1800 Motor UMA 250D up to 110kW. Weight 48.0 kg	KM30.38.10.1		
UPA 300 - 65 / 4e-5d	(UMA 250D)	Ø 380 (400) x 2000 Motor UMA 250D up to 160kW. Weight 51.0 kg	KM30.38.10.2		
UPA 300 - 65 / 5b-5	(UMA 250D)	Ø 380 (400) x 2250 Motor UMA 250D up to 190kW. Weight 55.0 kg	KM30.38.10.3		
UPA 300 - 94 / 1n-1k	(UMA 200D)	Ø 420 (440) x 1500 Motor UMA 200D up to 37kW. Weight 54.0 kg	KM30.42.08.1	Ø 420 x 385 Weight 4.0 kg KS42	(set = 3 pcs.) Weight 14.5 kg KA30.42.3
UPA 300 - 94 / 1g-2k	(UMA 200D)	Ø 420 (440) x 1800 Motor UMA 200D up to 57kW. Weight 60 kg	KM30.42.08.2		
UPA 300 - 94 / 2h-2e	(UMA 200D)	Ø 420 (440) x 2000 Motor UMA 200D up to 90kW. Weight 62 kg	KM30.42.08.3		
UPA 300 - 94 / 2c-2	(UMA 250D)	Ø 420 (440) x 1800 Motor UMA 250D up to 110kW. Weight 56 kg	KM30.42.10.1		
UPA 300 - 94 / 3h-3	(UMA 250D)	Ø 420 (440) x 2000 Motor UMA 250D up to 160kW. Weight 60 kg	KM30.42.10.2		
UPA 300 - 94 / 4f-4d	(UMA 250D)	Ø 420 (440) x 2250 Motor UMA 250D up to 110kW. Weight 64 kg	KM30.42.10.3		
UPA 350 - 128 / 1l	(UMA 200D)	Ø 450 (470) x 1500 Motor UMA 200D up to 45kW. Weight 60 kg	KM35.45.08.1	Ø 450 x 385 Weight 5.0 kg KS45	(set = 3 pcs.) Weight 16.0 kg KA35.45.3
UPA 350 - 128 / 1k-1f	(UMA 200D)	Ø 450 (470) x 1800 Motor UMA 200D up to 65kW. Weight 64 kg	KM35.45.08.2		
UPA 350 - 128 / 1d-1b	(UMA 200D)	Ø 450 (470) x 2000 Motor UMA 200D up to 90kW. Weight 68 kg	KM35.45.08.3		
UPA 350 - 128 / 1-2h	(UMA 250D)	Ø 450 (470) x 1800 Motor UMA 250D up to 110kW. Weight 62 kg	KM35.45.10.1		
UPA 350 - 128 / 2g-2e	(UMA 250D)	Ø 450 (470) x 2000 Motor UMA 250D up to 110kW. Weight 65 kg	KM35.45.10.2		
UPA 350 - 128 / 2c-2	(UMA 250D)	Ø 450 (470) x 2250 Motor UMA 250D up to 190kW. Weight 70 kg	KM35.45.10.3		
UPA 350 - 180 / 1m-1h	(UMA 200D)	Ø 480 (500) x 1800 Motor UMA 200D up to 65kW. Weight 70 kg	KM35.48.08.1	Ø 480 x 385 Weight 6.0 kg KS48	(set = 3 pcs.) Weight 16.0 kg KA35.48.3
UPA 350 - 180 / 1e-1c	(UMA 200D)	Ø 480 (500) x 2000 Motor UMA 200D up to 90kW. Weight 74 kg	KM35.48.08.2		
UPA 350 - 180 / 1	(UMA 250D)	Ø 480 (500) x 1800 Motor UMA 250D up to 110kW. Weight 68 kg	KM35.48.10.1		
UPA 350 - 180 / 2k-2g	(UMA 250D)	Ø 480 (500) x 2000 Motor UMA 250D up to 132kW. Weight 72 kg	KM35.48.10.2		
UPA 350 - 180 / 2f-2b	(UMA 250D)	Ø 480 (500) x 2250 Motor UMA 250D up to 190kW. Weight 78 kg	KM35.48.10.3		

3440.52/2 - 10 G2 02/2005

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