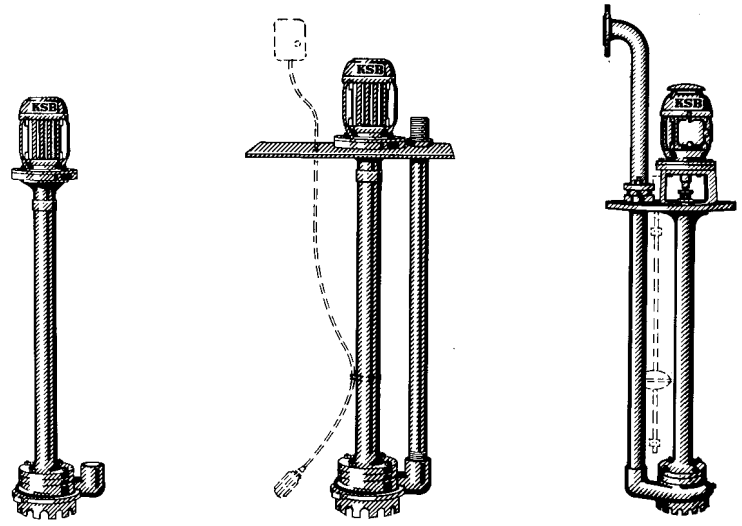
Sewage, Condensate and Heat Transfer Pumps



MK MKA MKY

Fields of Application

MK, MKA
Automatic drainage of rooms with flood hazard, collecting tanks or pits, condensate return from unpressurized tanks.

MKY
Condensate return plants,
secondary and primary circuits of heating circuits,
direct installation in heating tanks or heat exchangers of the secondary circuits of heat transfer plants.

Operating Data

Capacity	Q		2 to 36 m^3/h (0,56 to 10 l/s)
Heads	H		up to 19 m
Operating temperature	t	MK, MKA	-10 °C to +90 °C
		MKY	up to 200 °C 2)

Design

Vertical submersible pump with three-channel impeller, volute casing designed as inlet strainer.

Materails

Casing/Impeller Shaft Discharge pipe	MK/MKA **Cast iron** Chrome steel Galvanized steel	MK/MKA-B **Tin Bronze** Chrome nickel molybdenum steel Chrome nickel molybdenum steel	MK/MKA-C **Cast chrome nickel molybdenum steel** Chrome nickel molybdenum steel Chrome nickel molybdenum steel	MKY Cast iron Chrome steel Steel

Material **Bearing bush** • = standard X = upon request	Possible applications				Optiona additional devices		Anti-friction properties	Resistance to sand	Dry-running capacity	Resistance to oil	General chemical resistance	Temperature limit
	MK MKA	MK -B MKA-B	MK -C MKA-C	MKY	External lubrication	Grease lubrication	(+= good — = not too good)					°C
Stahl/Polytetrafluoräthylen	•						++	+	+		-	
Tin bronze	X	•			X	X	+	-	--	+	-	
Cast iron	X			X	X	X	+ -	-	+ -	+	-	
Acrylnitrile-butadien-rubber	X	X	X	X	X		+	+++	--	+	+	80
Fluorcaoutchouc	X	X	X	X	X		+	++	-	+ -	++	90 1)
Polytetrafluor ethylene, glass-fibre reinforced		X	X				+	--	--	+	+++	
Carbon, impragnated with phenolic resin		X	•				+	-	+ -	+	+	90
Carbon, impregnated with antimony				•			+	-	+ -	+	+	200 2)
DEVA2 369/8-ZWH	X		X	X			+	+ -	+	+	+	

1) for MKY up to 100°C 2) for water up to 110°C

Medium handled

MK, MKA
Contaminated water (max. grain size 18 mm), oils, emulsions, aggressive media, given an appropriate material selection, condensate from unpressurized tanks.

MKY
Condensate, heat transfer media below boiling point.

Drive

Surface-cooled three-phase squirrel cage motor 230/400 V, type of construction V1, enclosure IP 55 for standard motor, IP 54 for Ex-ell-T3, IP 55 for EEx-dellB+H2-T4.

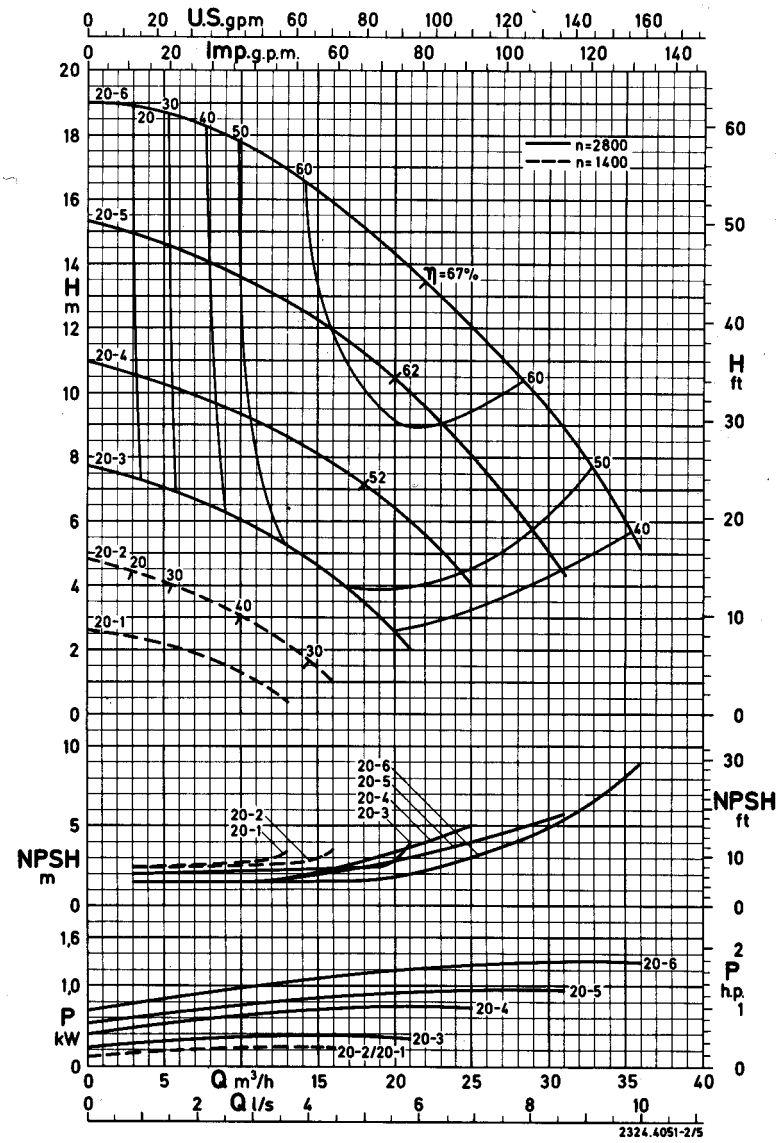
Bearings

On the pump side: product-lubricated plain bearing.
On the motor side grease-lubricated deep-groove ball bearing.

Certification

Certified quality management ISO 9001.

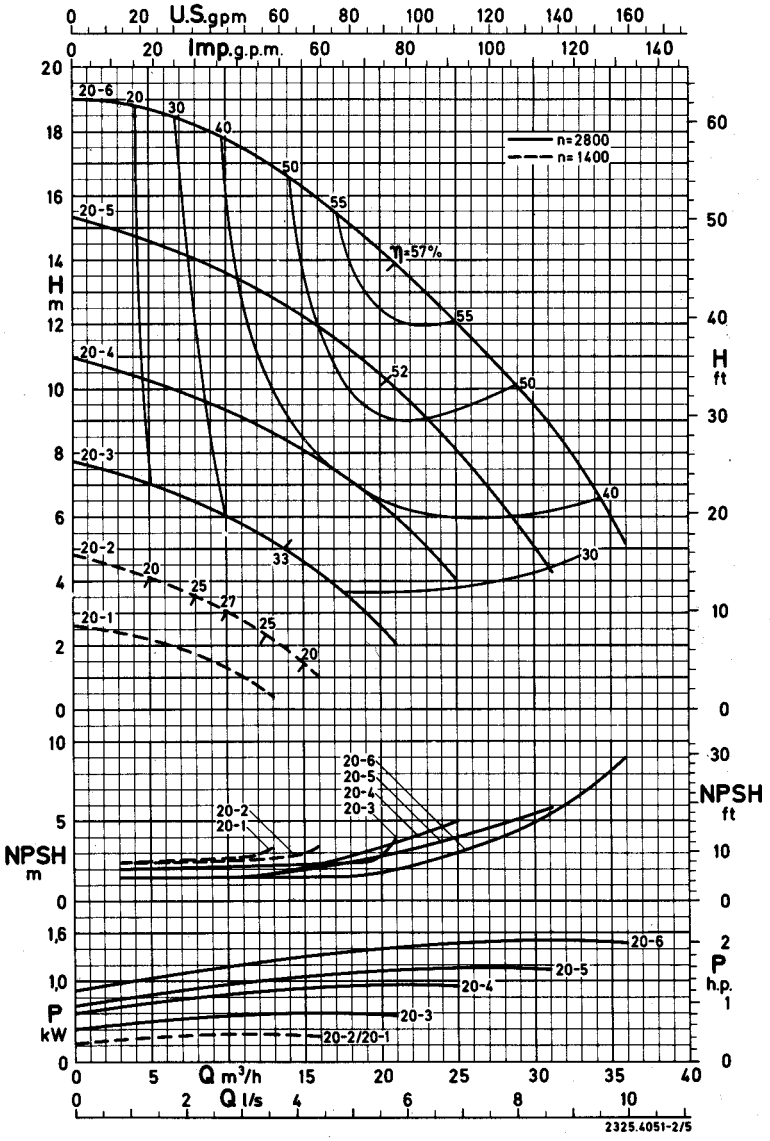
MK/MKA



MK, MKA			Norm[1] + Ex d		Ex e[1]		MK		MK-B		MK-C		MKA		MKA-B		MKA-C	
							Norm + Ex e	Ex d	Norm + Ex e	Ex d	Norm + Ex e	Ex d	Norm + Ex e	Ex d	Norm + Ex e	Ex d	Norm + Ex e	Ex d
	mm	1/min	P_2 kW	50 Hz 400 V ≈ A	P_2 kW	50 Hz 400 V ≈ A	≈ kg		≈ kg		≈ kg		≈ kg		≈ kg		≈ kg	
/100	994						42	50	48	56	45	53	70	78	79	87	75	83
20-1/190	1901	1400	0,55	1,5	0,55	1,5	58	66	66	74	62	70	90	98	102	110	98	106
20-2/280	2808						74	82	84	92	79	87	110	118	124	132	118	126
/100	994						43	51	49	57	45	53	71	79	80	88	75	83
20-3/190	1901	2800	0,75	1,8	0,75	1,8	59	67	67	75	62	70	91	99	103	111	97	105
20-4/280	2808						75	83	85	93	80	88	111	119	125	133	119	127
/100	994						44	53	50	59	47	56	72	81	81	90	77	86
20-5/190	1901	2800	1,1	2,6	1,1	2,5	60	69	68	77	64	73	92	101	104	113	98	107
/280	2808						76	85	86	95	81	89	112	121	126	135	120	129
/100	994						48	61	54	67	51	64	76	89	86	99	81	94
20-6/190	1901	2800	1,5	3,4	1,85	4,2	64	77	72	85	68	81	96	109	109	122	102	115
/280	2808						81	94	92	105	86	99	117	130	132	145	124	137

1) Norm = V1, IP55, Standardmotor / Standard motor / Moteur standard / Motore standard / standaard motor
EX e = V1, IP54, Ex-ell-T3
Ex d = V1, IP 55, EEx-dellB+H2-T4

MKY



MKY			Norm[1] + Ex d		Ex e[1]		MKY		
	mm	1/min	P_2 kW	50 Hz 400 V ≈ A	P_2 kW	50 Hz 400 V ≈ A	Norm ≈ kg	Ex e ≈ kg	Ex d ≈ kg
/100	1000						80	80	88
20-1/190	1907	1400	0,55	1,5	0,55	1,5	100	100	108
20-2/280	2814						120	120	128
/100	1000						81	81	89
20-3/190	1907	2800	0,75	1,8	0,75	1,8	101	101	109
/280	2814						121	121	129
/100	1000						82	82	91
20-4/190	1907	2800	1,1	2,6	1,1	2,5	102	102	111
/280	2814						122	122	131
/100	1000						86	86	99
20-5/190	1907	2800	1,5	3,4	1,3	3,1	106	106	119
/280	2814						127	127	140
/100	1000						87	88	101
20-6/190	1907	2800	2,2	4,7	1,85	4,2	107	108	121
/280	2814						128	129	142

1) Norm = V1, IP55, Standardmotor / Standard motor / Moteur standard / Motore standard / standaard motor
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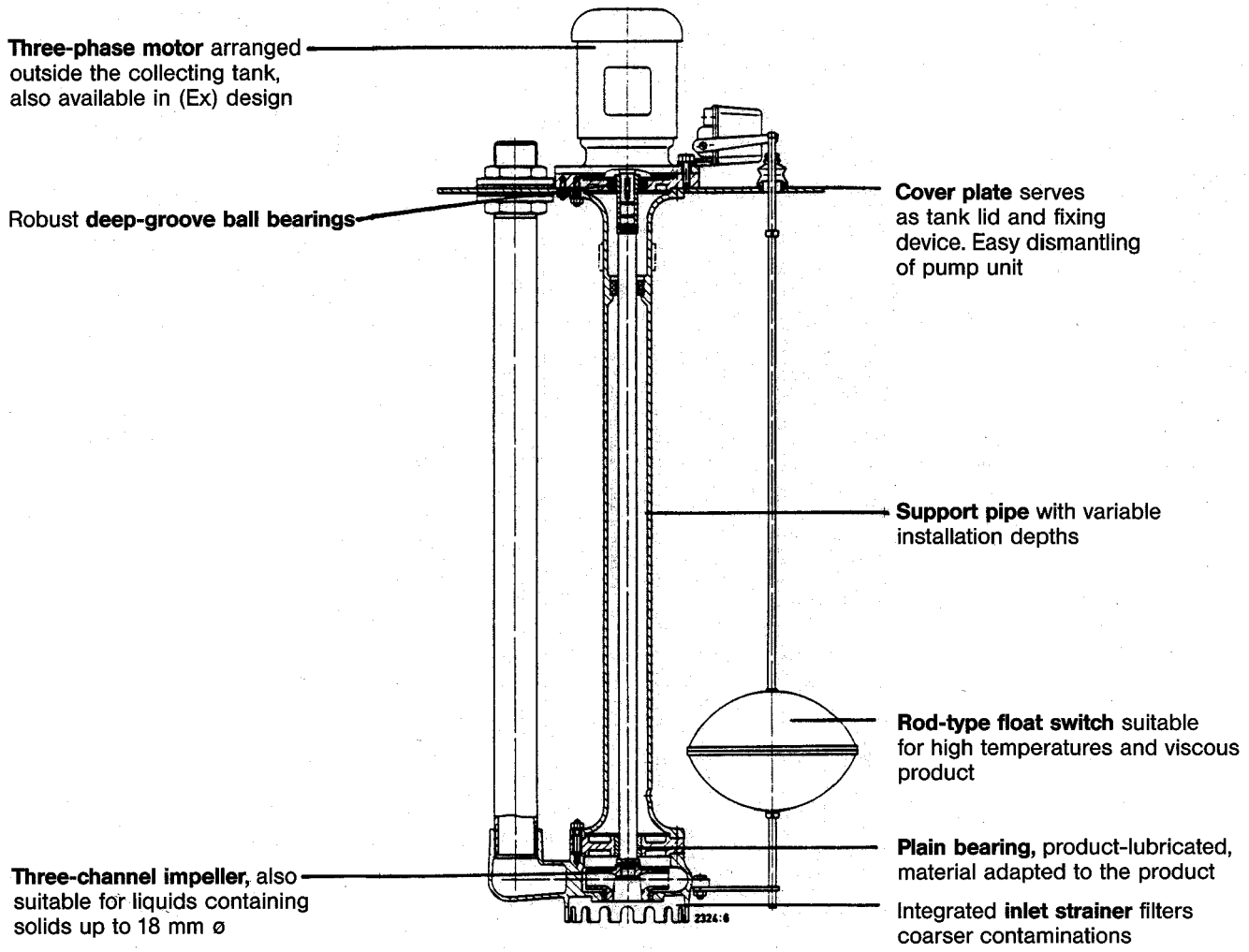
MKA 20



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