> Our technology. Your success. Pumps • Valves • Service



# Pumps and Automation 2014

# Our tradition: Competence since 1871

Introduction

We have supplied generations of customers worldwide with pumps, valves, automation products and services. A company with that kind of experience knows that success is a process based on a stream of innovations. A process made possible by a close working alliance between developer and user, between production and practice.

> Partners achieve more together. We do everything possible to ensure that our customers always have access to the ideal product and system solution. KSB is a loyal partner. And a strong one:

- Over 140 years' experience
- Present in more than 100 countries
- More than 16,000 employees
- More than 160 service centres worldwide
- Approximately 2,600 service specialists



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# Our spare parts and services: Dependability at your call

We tailor our services to enable new ways of individually optimising our products. They underscore our far-reaching sense of customer responsibility. That commitment starts before any orders – for example with sound advice on financing options. And it goes far beyond product arrival. A dependable partnership with KSB lasts for years.

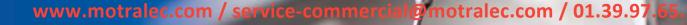
In addition to spare parts, we offer our customers a plethora of services around pumps, valves, and other rotating equipment – also for non-KSB products:

- Technical consultancy
- Services provided on-site and in our service centres
- Maintenance inspection management
- Reverse engineering / retrofit
- TPM<sup>®</sup> Total Pump Management
- SES System Efficiency Services

Which is how we secure the long-term value of our customers' facilities.

Ready where you are. KSB runs more than 160 service centres around the world. Some 3,000 highly trained KSB specialists are on call to install, commission and maintain your equipment. So you can plan for a future free of unwanted surprises. And we also provide on-site training sessions. They ensure that operators can use KSB pumps and valves and systems efficiently and profitably, day in, day out.





# Our mission: Certified quality assurance

First-class products and excellent service take top priority at KSB. To maintain this level of excellence, we have developed a modern quality management system with globally applicable guidelines. It is based on the Business Excellence model of the European Foundation for Quality Management, which already ensures improved quality management Europewide.

Our guidelines define uniform quality for all KSB locations and have helped us to optimise our manufacturing processes. The results are shorter delivery times and global availability of our products. These guidelines govern the way we act so comprehensively that even the competence of our consulting and the good value for money we offer are clearly stipulated. Like the 'Made in Germany' quality seal, we introduced internal certification as a sign of the highest quality: 'Made by KSB'.

#### Our five key goals:

- Maximum customer satisfaction: We do everything to fulfil our customers' wishes on time and in full.
- Fostering quality awareness: We put our quality commitment into daily practice – from executives to employees, whose qualifications and competence we foster through continuing training.
- **Prevention rather than cure:** We systematically analyse errors and prevent the causes.
- Improvement in quality: We continually optimise our processes in order to work more efficiently.
- Involvement of suppliers: We attach great importance to working together fairly and openly to achieve our shared goals.

In addition to quality, energy efficiency also plays an important role at KSB. Our products already fulfil the statutory minimum efficiency values of the ErP regulations for 2015, making a valuable contribution at the component level. You can potentially save even more energy by optimising your entire plant with the FluidFuture<sup>®</sup> energy efficiency concept.





As a signatory to the United Nations Global Compact, KSB is committed to endorsing the ten principles of the international community in the areas of human rights, labour standards, environmental protection and anticorruption.

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Pumps			Fluid Future®		Factory-automated	Automation possible	Water Transport and Treatment	Industry	Energy Conversion	Building Services	Solids Transport
Type / Application	Type series	Page	Flui	ErP	Fact	Aut	Wat Trea	Indu	Ene	Buil	Soli
Circulator / hot water service pumps, fixed speed	Riotherm	24				•					
Drinking water circulator pumps, fixed speed	Rio-Therm N	24									
Drinking water circulator pumps,	Rio-Eco Therm N	24									
variable speed	Calio Therm S	25									
	Calio S	25									
Circulator pumps, variable speed	Calio	25									
	Rio-Eco Z N	25									
	Etaline / Etaline Z	26									
	Etaline PumpDrive	26									
In-line pumps with fixed /	Etaline Z PumpDrive	26									
variable speed drive	Etaline-R	26									
	ILN / ILNE / ILNS	27									
	ILNC / ILNCE / ILNCS	27									
	Etanorm / Etanorm-R	28									
	Etanorm PumpDrive	28									
	Etabloc	28									
	Etabloc PumpDrive	28									
Standardised / close-coupled pumps, fixed / variable speed	Etachrom BC	28									
pumps, fixed / variable speed	Etachrom BC PumpDrive	29									
	Etachrom NC	29									
	Etachrom NC PumpDrive	29									
	Etanorm GPV / CPV	29									
Hot water pumps	HPK-L / HPK / HPH	30									
	Etanorm SYT / RSY	31									
Hot water / thermal oil pumps	Etabloc SYT / Etaline SYT	31									
Thermal oil pumps with magnetic	HX (Nikkiso-KSB)	31									
drive or canned motor	HY (Nikkiso-KSB)	31									
	МедаСРК	32									
Standardised chemical pumps	MegaCPK PumpDrive / PumpMeter	32									
	CPKN	32									
	Magnochem	32									
	Magnochem-Bloc	33									
Seal-less pumps	Etaseco / Etaseco-l	33									
	Etaseco RVP	33									
	Secochem Ex / Secochem Ex K	33							-		

Pumps			FluidFuture®		Factory-automated	Automation possible	Water Transport and Treatment	Industry	Energy Conversion	Building Services	Solids Transport
Type / Application	Type series	Page	Flu	ErP	Fac	Ν	Wa Tre	Ind	Ene	Bui	Sol
	HN (Nikkiso-KSB)	34									
	HT (Nikkiso-KSB)	34									
Seal-less pumps	HK (Nikkiso-KSB)	34									
	VN (Nikkiso-KSB)	34									
	DN (Nikkiso-KSB)	34									
	RPH	35									
	RPHb	35									
	RPH-V	35									
	RPHmdp	35									
	CTN	35									
	API series (Nikkiso-KSB)	36									
Process pumps	CHTR	36									
	YNKR	36									
	CINCP / CINCN	36									
	INVCP / INVCN	36									
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Deinsseten hen setime erstenen	Hya-Rain / Hya-Rain N	37									
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	Multi Eco	38									
	Multi Eco-Pro	38									
Domestic water supply /	Multi Eco-Top	38									
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	Ixo	38									
	Filtra N	39									
	Hya-Solo EV	39									
	Hya-Solo D	39									
	Hya-Solo DV	39									
	Hya-Compact K	40									
Process houston autom	Hya-Compact VP	40									
Pressure booster systems	Hya-Eco VP	40									
	Hyamat K	40									
	Hyamat V	40									
	Hyamat VP	41									
	Hyamat IK, IV, IVP	41									

Pumps			FluidFuture®	ο.	Factory-automated	Automation possible	Water Transport and Treatment	Industry	Energy Conversion	Building Services	Solids Transport
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	Ama-Drainer 400/10 400/35 500/10/11	41									
Drainage pumps /	Ama-Drainer 80, 100	42									
waste water pumps	Ama-Porter F / S	42									
	Rotex	42									
	ΜΚ / ΜΚΥ	42									
	AmaDS <sup>3</sup>	43									
	Ama-Drainer-Box	43									
	Ama-Drainer-Box Mini	43									
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	CK 800-Eu Pump Station	44									
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	Amarex N CK Pump Station	44									
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	Amarex N S32	45									
	Amarex N	45									
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	WBC	48									
	LSA-S	48									
	LCC-M	49									
Slurry pumps	LCC-R	49									
	ТВС	49									
	LCV	49									
	FGD	49									
	Mega	50									

Pumps			<b>Fluid Future</b> <sup>®</sup>	ErP	Factory-automated	Automation possible	Water Transport and Treatment	Industry	Energy Conversion	Building Services	Solids Transport
Type / Application	Type series	Page	Ē	Ъ	Ъ	Ā	≥⊧	2	ш	B	Š
	HHD	50									
	MHD	50									
Slurry pumps	LHD	50									
	MDX	50									
	ZW	51									
	HVF	51									
	Etaprime L	51									
Self-priming pumps	Etaprime B / BN	51									
	MZ	52									
	S 100D / UPA 100C	52									
	UPA 150C	52									
Cubmarrible barebala numne	UPA 200, 200B, 250C	52									
Submersible borehole pumps	UPA 300, 350	53									
	UPZ, BSX-BSF	53									
	BEV	53									
	Movitec V / LHS / VS / VC	54									
	Movitec VCI	54									
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·	Multitec	54									
	Multitec PumpDrive	54									
	Omega	55									
Axially split pumps	RDLO	55									
	RDLP	55									
	Vitachrom	56									
	Vitacast	56									
Hygienic pumps	Vitaprime	56									
	Vitastage	56									
	Vitalobe	56									
	CHTA / CHTC / CHTD	57									
	HGB / HGC / HGD	57									
	HGM	57									
	YNK	57									
Pumps for power station	LUV / LUVA	57									
conventional islands	WKTB	58									
	SEZ / SEZT / PHZ / PNZ	58									
	SNW / PNW	58									
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	wentional islands         WKTB         58         Image: Constraint of the second sec										

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Pumps Type / Application	Type series	Page	FluidFuture®	ErP	Factory-automated	Automation possible	Water Transport and Treatment	Industry	Energy Conversion	Building Services	Solids Transport
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	RUV	59									
	PSR	59									
Duran fan muda en mennen alamte	RHD	59									
Pumps for nuclear power plants	LUV Nuclear	60									
	RHM	60									
	RVM	60									
	RHR	60									
	RVR	60									
	RPH-RO	61									
Pumps for desalination	HGM-RO	61									
by reverse osmosis	Multitec-RO	61									
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Desitive displacement numer	RC / RCV	62									
Positive displacement pumps	IPR	62									
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Fire-fighting systems	FFU	62									

Automation and drives Type / Application	Type series	Page	<b>FluidFuture</b> <sup>®</sup>	ErP	Water Transport and Treatment	Industry	Energy Conversion	<b>Building Services</b>	Solids Transport
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	UPA Control	64							
	hyatronic N	64							
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	hyatronic spc	65							
Speed control systems	Hyamaster ISB	65							
	Hyamaster SPS	65							
	PumpMeter	66							
Monitoring and diagnostic systems	Amacontrol	66							
Control system	BOA-Systronic	66							

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Fluids	d Riotherm		Rio-Therm N	a Rio-Eco Therm N	_		Calio Calio	Rio-Eco Z N	a	Etaline	Etaline Z	Etaline Pumpurive	Etaline-R		_	_	Etanorm / Etanorm-R	Etabloc	Etabloc PumpDrive	Etachrom BC	Etachrom BC PumpDrive	Etachrom NC	Etachrom NC PumpDrive Etanorm GPV / CPV	_	_	HPH	_	Etanorm SYT / RSY	Etabloc SY I / Etaline SY I
Activated sludge Aggressive liquids	Circulator / hot water service pumps, fixed speed	Drinking water circulator pumps, fixed speed	-[	Drinking water circulator pumps, variable speed		rculator pumps, variable speed			variable speed drive	-			-			ble speed				_		-		sdund	-				-
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HX (Nikkiso-KSB) HY (Nikkiso-KSB)	MegaCPK MegaCPK	PKN	Magnochem	Magnochem-Bloc Etasero / Etasero	Etaseco RVP	Secochem Ex	Secochem Ex K HN (Nikkiso-KSR)	HT (Nikkiso-KSB)	HK (Nikkiso-KSB) VN (Nikkiso-KSB)	DN (Nikkiso-KSB)		RPH	RPH-V	RPHmdp		API SE CHTR	YNKR	CINCP / CINCN	RW/CP / RW/CN	WKTR		Hya-Rain / Hy Hva-Rain Fco	
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Valuable liquids

Volatile liquids

Wash water

Waste water

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## Circulator / hot water service pumps, fixed speed

#### Riotherm<sup>®</sup> Hot water service pump

Rp	1-11/4
Q [m <sup>3</sup> /h]	max. 10
H [m]	max. 6
p [bar]	max. 10
T [°C]	-2 to +110
Data for 50 Hz operation	

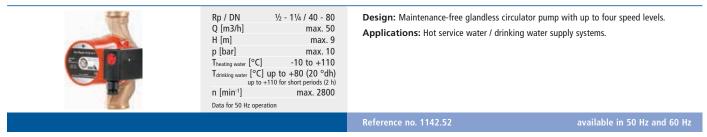
Switchgears

**Design:** Screw-ended glanded pump with mechanical seal and fixed speed. **Applications:** Swimming pools, cooling circuits and industrial plants.

also available in 60 Hz

# Drinking water circulator pumps, fixed speed

Rio®-Therm N Glandless circulator pump with up to 4 speed levels



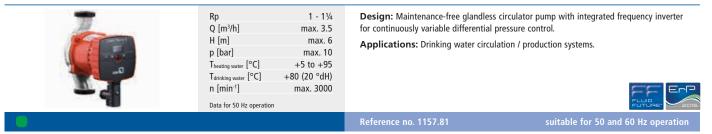
# Drinking water circulator pumps, variable speed

Rio-Eco® Therm N High-efficiency glandless circulator pump with continuously variable differential pressure control

Rp / DN Q [m <sup>3</sup> /h] H [m] p [bar] Theating water [°C] Tdrinking water [°C] n [min <sup>-1</sup> ] Data for 50 Hz operation	1-1¼ / 32 - 80 max. 38 max. 12 max. 10 -10 to +110 +80 (20 °dH) max. 3700	Design: Maintenance-free glandless circu for continuously variable differential press Applications: Hot service water / drinki	
		Reference no. 1142.51	suitable for 50 and 60 Hz operation

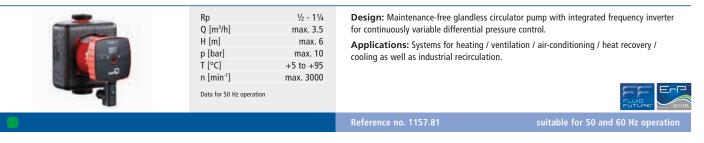
# Drinking water circulator pumps, variable speed

Calio Therm S High-efficiency glandless circulator pump with continuously variable differential pressure control



# Circulator pumps, variable speed

Calio S High-efficiency glandless circulator pump with continuously variable differential pressure control



Calio High-efficiency glandless circulator pump with continuously variable differential pressure control

Rp / DN Q (m <sup>3</sup> /h) H (m) p (bar) T [°C] n [min <sup>-1</sup> ] Data for 50 Hz op	1 - 1¼ / 32 - 100 max. 70 max. 18 max. 16 -10 to +110 max. 3660	for continuously variable differential p	ventilation / air-conditioning / heat recovery /
		Reference no. 1157.82	suitable for 50 and 60 Hz operation

**Rio-Eco<sup>®</sup> Z N** High-efficiency glandless twin circulator pump with continuously variable differential pressure control

DN Q [m³/h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz operati	32 - 80 max. 46 max. 14 max. 10 -10 to +110 max. 3550	for continuously variable differential pressu	ator pump with integrated frequency inverter re control. tion/air-conditioning/heat recovery/cooling as
		Reference no. 1140.51	suitable for 50 and 60 Hz operation

Factory-automated



# In-line pumps with fixed / variable speed drive

#### Etaline<sup>®</sup> In-line pump

	DN Q [m³/h] H [m] p [bar] T [°C] Data for 50 Hz oper	32 - 200 max. 700 max. 95 max. 16 -30 to +140	Design: Close-coupled, in-line circulator pump motor. Applications: Hot water heating systems, cou service water supply systems, industrial recircul	oling circuits, air-conditioning, water and
PumpMeter, Hyamaster, LevelControl, Swi	tchgears		Reference no. 1159.5	also available in 60 Hz

#### Etaline® Z In-line twin pump

	DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] Data for 50 Hz opera	32 - 200 max. 1120 max. 38 max. 16 -30 to +140	Design: Close-coupled, in-line twin circulator purigidly coupled. Applications: Hot water heating systems, cooli water and service water supply systems, industria	ing circuits, air-conditioning systems,
PumpMeter, Hyamaster, LevelControl, Switchgears		Reference no. 1148.5	also available in 60 Hz	

#### Etaline® PumpDrive In-line pump with motor-mounted variable speed system

	DN Q [m³/h] H [m] p [bar] T [°C] n [min¹]	32 - 200 max. 788 max. 100 max. 16 -10 to +140 max. 4200	system; pump shaft and motor shaft are	ems, cooling circuits, air-conditioning systems,
🔋 🛑 PumpMeter, BOA-Systronic			Reference no. 1149.52	also suitable for 60 Hz operation

#### Etaline® Z PumpDrive In-line pump with motor-mounted variable speed system

	DN Q [m³/h] H [m] p [bar] T [°C] n [min <sup>.1</sup> ]	32 - 200 max. 990 max. 38 max. 16 -10 to +140 max. 2100	Design: Close-coupled in-line circulator pump, in variable speed system; pump shaft and motor shaft modules (accessories) enable redundant operation level controller. Applications: Hot water heating systems, cooling air-conditioning systems, water and service water s industrial recirculation systems.	t are rigidly coupled. Dual pump of Etaline Z without a higher- g circuits,
😸 🛑 PumpMeter, BOA-Systronic			Reference no. 1154.51	also suitable for 60 Hz operation

#### Etaline®-R In-line pump

	DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] Data for 50 Hz operation	150 - 350 max. 1900 max. 93 max. 25 -30 to +140	<b>Design:</b> Vertical close-coupled, in-line circulator pump wit standardised motor. <b>Applications:</b> Hot water heating systems, cooling circuits service water supply systems, industrial recirculation system	s, air-conditioning, water and
PumpMeter, PumpDrive, Hyamaster, Switchgears			Reference no. 1146.51	also available in 60 Hz

Factory-automated Automation possible

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# In-line pumps with fixed / variable speed drive

#### ILN / ILNE / ILNS In-line pump

	DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz operation	65 - 400 max. 3100 max. 112 max. 16 -20 to +70 max. 3000	<ul> <li>Design: Vertical in-line centrifugal pump with closed impeller and mechanical seal.</li> <li>ILNS fitted with an auxiliary vacuum pump and ILNE with ejector. Process design allows removal of the impeller without removing the pipes and the motor.</li> <li>Applications: Hot water heating systems, cooling circuits, air-conditioning, marine applications, water and service water supply systems, cleaning systems, industrial recirculation systems.</li> </ul>
PumpMeter, PumpDrive, Hyamaster, Switchgear			also suitable for 60 Hz operation

#### ILNC / ILNCE / ILNCS In-line pump

	DN Q [m³/h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz operat	32 - 125 max. 370 max. 112 max. 16 -20 to +70 max. 3000	<ul> <li>Design: Closed-coupled vertical in-line centrifugal pump with electric motor, closed impeller and mechanical seal. ILNCS fitted with an auxiliary vacuum pump and ILNCE with ejector. Standardised IEC motor.</li> <li>Applications: Hot water heating systems, cooling circuits, air-conditioning, marine applications, water and service water supply systems, cleaning systems, industrial recirculation systems.</li> </ul>
PumpMeter, PumpDrive, Hyamaste	er, Switchgear		also suitable for 60 Hz operation

# Standardised/close-coupled pumps, fixed/var. speed

#### Etanorm<sup>®</sup> / Etanorm<sup>®</sup>-R Standardised pump

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	DN Q [m³/h] H [m] p [bar] T [°C] Data for 50 Hz operation	32 - 300 max. 1900 max. 102 max. 16 max. +140	<ul> <li>Design: Horizontal, long-coupled, single-stage volute casing pump (pump size 125 - 500 with two stages) with ratings and main dimensions to EN 733, in back pull-out design, with replaceable shaft sleeves / shaft protecting sleeves and casing wear rings.</li> <li>ATEX-compliant version available.</li> <li>Applications: Spray irrigation, irrigation, drainage, district heating, water supply systems, heating and air-conditioning systems, condensate transport, swimming pools, fire-fighting systems, handling of hot water, cooling water, fire-fighting water, oil, brine, drinking water, brackish water, service water, etc.</li> </ul>
🛑 PumpMeter, Hyamaster			Reference no. 1311.5 (Etanorm) + 1211.5 also available in 60 Hz

#### Etanorm® PumpDrive Standardised pump with motor-mounted variable speed system

	DN Q [m³/h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ]	25 - 150 max. 660 max. 160 max. 16 max. +140 max. 4200	<ul> <li>Design: Horizontal, long-coupled, single-stage volute casing pump in back pull-out design, with replaceable shaft sleeves / shaft protecting sleeves and casing wear rings and motor-mounted variable speed system.</li> <li>Applications: Spray irrigation, irrigation, drainage, district heating, water supply systems, heating and air-conditioning systems, condensate transport, swimming pools, fire-fighting systems, handling of hot water, cooling water, fire-fighting water, oil, brine, drinking water, brackish water, service water, etc.</li> </ul>
PumpMeter			Reference no. 1311.5 (Etanorm) + 4070.5

#### Etabloc<sup>®</sup> Close-coupled pump

	DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] Data for 50 Hz operation	25 - 150 max. 612 max. 102 max. 16 max. +140	<b>Design:</b> Close-coupled, single-stage volute casing pump, ratii replaceable shaft sleeve and casing wear rings. ATEX-compliar <b>Applications:</b> Spray irrigation, irrigation, drainage and wate and air-conditioning systems, condensate transport, swimming water, cooling water, fire-fighting water, seawater, oil, brine, dr agents, brackish water, service water, etc.	nt version available. r supply systems, heating pools, handling of hot
PumpMeter, Hyamaster			Reference no. 1167.5	also available in 60 Hz

#### Etabloc® PumpDrive Close-coupled pump with motor-mounted variable speed system

	DN Q [m³/h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ]	25 - 150 max. 660 max. 101 max. 16 max. +110 max. 4200	<ul> <li>Design: Close-coupled, single-stage volute casing pump, ratings to EN 733, with replaceable shaft sleeve and casing wear rings and motor-mounted variable speed system.</li> <li>Applications: Spray irrigation, irrigation, drainage and water supply systems, heating and air-conditioning systems, condensate transport, swimming pools, handling of hot water, cooling water, fire-fighting water, seawater, oil, brine, drinking water, cleaning agents, brackish water, service water, etc.</li> </ul>
🕐 🛑 PumpMeter			Reference no. 1167.5 + 4070.5

#### Etachrom<sup>®</sup> BC Close-coupled chrome steel pump

	DN Q [m³/h] H [m] p [bar] T [°C] Data for 50 Hz operation	25 - 80 max. 260 max. 106 max. 12 max. +110	<ul> <li>Design: Close-coupled, horizontal, single-stage annular casing main dimensions to EN 733, with replaceable casing wear ring available.</li> <li>Applications: Spray irrigation, irrigation, drainage and water and air-conditioning systems, fire-fighting systems, condensate pools, handling of hot water, cooling water, fire-fighting water, drinking water, cleaning agents, service water.</li> </ul>	s. ATEX-compliant version supply systems, heating transport, swimming
PumnMeter Hyamaster			Reference no. 1213 5	also available in 60 Hz

# Standardised/close-coupled pumps, fixed/var. speed

Etachrom<sup>®</sup> BC PumpDrive Close-coupled chrome steel pump with motor-mounted variable speed system

	DN Q [m³/h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ]	25 - 80 max. 260 max. 106 max. 12 max. +110 max. 3600	<ul> <li>Design: Close-coupled, horizontal, single-stage annular casing pump, with ratings and main dimensions to EN 733, with replaceable casing wear rings and motor-mounted variable speed system.</li> <li>Applications: Spray irrigation, irrigation, drainage and water supply systems, heating and air-conditioning systems, fire-fighting systems, condensate transport, swimming pools, handling of hot water, cooling water, fire-fighting water, oil, drinking water, cleaning agents, service water.</li> </ul>
🕐 🛑 PumpMeter			Reference no. 1213.5 + 4070.5

#### Etachrom<sup>®</sup> NC Standardised chrome steel pump

	DN Q [m³/h] H [m] p [bar] T [°C] Data for 50 Hz operatio	25 - 80 max. 260 max. 106 max. 12 max. +110	<b>Design:</b> Horizontal, single-stage annular casing p to EN 733, with replaceable casing wear rings. ATE <b>Applications:</b> Water supply, spray irrigation, irrig and air-conditioning systems, fire-fighting systems, water, hot water, cooling water, swimming pool wa and cleaning agents.	X-compliant version available. Jation and drainage systems, heating handling of drinking water, service
PumpMeter, Hyamaster			Reference no. 1212.5	also available in 60 Hz

Etachrom® NC PumpDrive Standardised chrome steel pump with motor-mounted variable speed system

Ser Ste	DN Q [m³/h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ]	25 - 80 max. 260 max. 106 max. 12 max. +110 max. 3600	Design: Horizontal, single-stage annular casing pump, with ratings and main dimensions to EN 733, with replaceable casing wear rings and motor-mounted variable speed system. Applications: Water supply, spray irrigation, irrigation and drainage systems, heating and air-conditioning systems, fire-fighting systems, handling of drinking water, service water, hot water, cooling water, swimming pool water, fire-fighting water, condensate, oil and cleaning agents.
🕐 🛑 PumpMeter			Reference no. 1212.5 + 4070.5

#### Etanorm® GPV / CPV Vertical low-pressure pump

t	DN Q [m³/h] H [m] p [bar] T [°C] Data for 50 Hz operation	32 - 150 max. 660 max. 102 max. 16 max. +95	<b>Design:</b> Single-stage volute casing pump, ratings to E closed tanks under atmospheric pressure. Up to an imr <b>Applications:</b> Handling of neutral degreasing and p with degreasing agents, dipping paints, etc.	mersion depth of 2000 mm.
			Reference no. 1214.5	also available in 60 Hz

## Hot water pumps

HPK-L<sup>®</sup> Heat transfer liquid / hot water recirculation pump without external cooling

Data for 50 Hz operation

		<ul> <li>Design: Horizontal, radially split volute casing pump in back pull-out design to ISO 2858 / ISO 5199, single-stage, single-entry, with radial impeller.</li> <li>Equipped with heat barrier, seal chamber air-cooled by integrated fan impeller, no external cooling. ATEX-compliant version available.</li> <li>Applications: Handling of hot water and thermal oil in piping or tank systems, particularly in medium-sized and large hot water heating systems, forced circulation boilers, district heating systems, etc.</li> </ul>	
		Reference no. 1136.5	also available in 60 Hz
: water recircula	tion pump		
DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] Data for 50 Hz operation	150 - 400 max. 4150 max. 185 max. 40 max. +400	<b>Design:</b> Horizontal, radially split volute casing p ISO 2858 / ISO 5199, single-stage, single-entry, v TÜV certification to TRD on option. ATEX-complia <b>Applications:</b> Handling of hot water and thern particularly in medium-sized and large hot water boilers, district heating systems, etc.	with radial impeller. ant version available. mal oil in piping or tank systems,
		Reference no. 1121.51	also available in 60 Hz
bump			
DN Q [m³/h] H [m] p [bar]	40 - 350 max. 2350 max. 225 max. 110	Design: Horizontal, radially split volute casing p single-stage, single-entry, with centreline pump f to TRD on option. ATEX-compliant version availal Applications: Handling of hot water in high-p	feet and radial impeller. TÜV certification ble.
	DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] Data for 50 Hz operation Data for 50 Hz operation	Q [m <sup>3</sup> /h] max. 4150 H [m] max. 185 p [bar] max. 185 T [°C] max. 400 Data for 50 Hz operation Data for 50 Hz operation Data for 50 Hz operation DN 40 - 350 Q [m <sup>3</sup> /h] max. 2350 H [m] max. 225 p [bar] max. 110	DN       150 - 400         Q [m³/h]       max. 4150         H [m]       max. 4150         J [SO 2858 / ISO 5199, single-stage, single-entry, v         TÜV certification to TRD on option. ATEX-complia         Applications: Handling of hot water and therr particularly in medium-sized and large hot water boilers, district heating systems, etc.         Data for 50 Hz operation         DN       40 - 350         Q [m³/h]       max. 2350         H [m]       max. 110

Hyamaster

Reference no. 1122.5

also available in 60 Hz

## Hot water / thermal oil pumps

#### Etanorm<sup>®</sup> SYT / RSY Hot water / thermal oil pump

1	DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] Data for 50 Hz operation	32 - 300 max. 1900 max. 102 max. 16 max. +350	ATEX-compliant version available.	casing pump in back pull-out design with ngle-stage, with replaceable casing wear rings. N 4754, VDI 3033) or hot water recirculation
🛑 Hyamaster			Reference no. 1220.5	also available in 60 Hz
Etabloc <sup>®</sup> SYT / Etaline <sup>®</sup> S	<b>/T</b> Hot water	r / thermal o	il pump	

	DN Q [m³/h] H [m] p [bar] T [°C] Data for 50 Hz operation	32 - 100 max. 280 max. 67 max. 16 max. +350	Design: Horizontal, single-stage volute casing pump in ba and main dimensions to EN 733, or in in-line design, with Applications: Heat transfer systems (DIN 4754) or hot v	replaceable casing wear rings.
Hyamaster			Reference no. 1172.5	also available in 60 Hz

# Thermal oil pumps with mag-drive or canned motor

HX (Nikkiso-KSB)\* Thermal oil pump with explosion protection

DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] Data for 50 Hz operation	32 - 100 max. 200 max. 100 max. 40 max. +350	<b>Design:</b> Horizontal, seal-less, single-stage pump with fully enclosed canned motor, uncooled. ATEX-compliant version available. <b>Applications:</b> Handling of thermal oils and other hot fluids in heat transfer systems to DIN 4754.
		also available in 60 Hz

#### HY (Nikkiso-KSB)\* Thermal oil pump with explosion protection



DN	32 - 80
Q [m <sup>3</sup> /h]	max. 150
H [m]	max. 100
p [bar]	max. 40
T [°C]	max. +250
Data for 50 Hz operation	

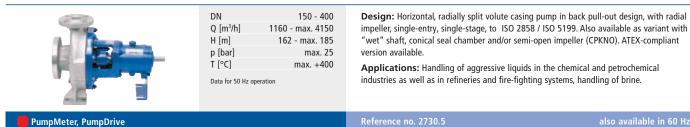
Design: Horizontal, seal-less, single-stage pump with fully enclosed canned motor, uncooled, coolable or heatable. ATEX-compliant version available. Applications: Handling of thermal oils and other hot fluids in heat transfer systems to DIN 4754.

## **Standardised chemical pumps**

#### **MegaCPK** Standardised chemical pump with two bearing bracket variants

	DN Q [m³/h] H [m] p [bar] T [°C] Data for 50 Hz operation	25 - 250 max. 1160 max. 162 max. 25 max. +400	Design: Horizontal, radially split volute casing pump in ba impeller, single-entry, single-stage, to ISO 2858 / ISO 5199 "wet" shaft and conical seal chamber. ATEX-compliant vers Applications: Handling of aggressive liquids in the chem industries as well as in refineries.	. Also available as variant with sion available.
PumpMeter, PumpDrive			Reference no. 2731.5	also available in 60 Hz
MegaCPK PumpDrive / Pu	umpMeter	Standardise	d chemical pump with two bearing brac	ket variants
	DN Q [m³/h] H [m]	25 - 250 max. 1150 max. 162	Design: Horizontal, radially split volute casing pump in ba impeller, single-entry, single-stage, to ISO 2858 / ISO 5199. "wet" shaft and conical seal chamber. ATEX-compliant vers	Also available as variant with
	p [bar] T [°C]	max. 25 max. +140	Applications: Handling of aggressive liquids in the chem industries as well as in refineries.	ical and petrochemical
And and a second	n [min-1] Data for 50 Hz operation	max. 3600		

#### **CPKN** Standardised chemical pump with reinforced bearing bracket



# **Seal-less pumps**

Magnochem<sup>®</sup> Standardised chemical pump with mag-drive

	DN Q [m³/h] H [m] p [bar] T [°C] Data for 50 Hz operatio	25 - 160 max. 1160 max. 162 max. 40 -90 to +300	Design: Horizontal, seal-less, mag-drive volute to ISO 2858 / ISO 5199, single-stage, single-entr version available. Applications: Handling of aggressive, toxic, e: or harmful liquids in the chemical, petrochemica	y, with radial impeller. ATEX-compliant xplosive, valuable, flammable, malodorous
Hyamaster			Reference no. 2739.5	also available in 60 Hz

# Seal-less pumps

#### Magnochem<sup>®</sup>-Bloc Close-coupled chemical pump with mag-drive

	DN Q [m³/h] H [m] p [bar] T [°C] Data for 50 Hz operat	25 - 160 max. 754 max. 162 max. 25 max. +250	Design: Horizontal, seal-less, close-coupled, ISO 2858 / ISO 5199, single-stage, single-ent version available. Applications: Handling of aggressive, toxi or harmful liquids in the chemical, petrochen	ry, with radial impeller. ATEX-compliant c, explosive, valuable, flammable, malodorous
e Hyamaster			Reference no. 2749.5	also available in 60 Hz
Etaseco <sup>®</sup> / Etaseco <sup>®</sup> -I Star	ndardised wa	ter pumps wit	h canned motor	

	DN Q [m³/h] H [m] p [bar] T [°C] Data for 50 Hz operation	32 - 100 max. 250 max. 162 max. 16 max. +140	<b>Design:</b> Horizontal / vertical, seal-less volute casing pum with fully enclosed canned motor, low noise emission, with single-entry, pump casing connecting dimensions to EN 73 <b>Applications:</b> Handling of aggressive, flammable, toxic, the chemical and petrochemical industry, in environmenta industry.	h radial impeller, single-stage, 33. volatile, or valuable liquids in
PumpMeter, Hyamaster, PumpDrive			Reference no. 2935.5	also available in 60 Hz

Etaseco<sup>®</sup> RVP Cooling circuit pump with canned motor

0.	DN Q [m³/h] H [m] p [bar] T [°C]	32 max. 20 max. 25 max. 10 max. +85	<b>Design:</b> Horizontal / vertical seal-less volute casing p with fully enclosed canned motor, low noise emission, single-entry. <b>Applications:</b> Pump for handling toxic, volatile or va and industrial engineering and for use as a coolant pu vehicles, environmental and industrial engineering; ap emission, smooth running or long service intervals are	with radial impeller, single-stage, aluable fluids in environmental imp in cooling systems. Transport plications where low noise
PumpMeter, PumpDrive			Reference no. 2935.17	also available in 60 Hz

#### Secochem<sup>®</sup> Ex Standardised chemical pump with canned motor and explosion protection

	DN Q [m³/h] H [m] p [bar] T [°C] Data for 50 Hz operation	25 - 100 max. 300 max. 150 max. 25 max. +130	<b>Design:</b> Horizontal, seal-less volute casing pump enclosed canned motor, low noise emission, with entry, casing connecting dimensions to ISO 2858. <b>Applications:</b> Handling of aggressive, flammab liquids in the chemical and petrochemical industry general industry.	radial impeller, single-stage, single- Design to ATEX. Ie, explosive, toxic, volatile or valuable
Hyamaster			Reference no. 2939.5	also available in 60 Hz

#### Secochem<sup>®</sup> Ex K Standardised chemical pump with canned motor and explosion protection

	DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] Data for 50 Hz operation	25 - 100 max. 300 max. 150 max. 25 max. +400	Design: Horizontal, seal-less volute casing pump in back p enclosed canned motor, low noise emission, with radial imp entry, pump casing connecting dimensions to ISO 2858, wi ATEX. Applications: Handling of aggressive, flammable, explosi liquids in the chemical and petrochemical industry, in envir general industry.	eller, single-stage, single- th external cooler. Design to ve, toxic, volatile or valuable
Hyamaster			Reference no. 2939.51	also available in 60 Hz

# Seal-less pumps

#### HN (Nikkiso-KSB)\* Chemical canned motor pump with explosion protection

DN Q [m³/h] H [m] p [bar] T [°C] Data for 50 Hz operation	32 - 300 max. 800 max. 200 max. 40 max. +180	Design: Horizontal (HN) or vertical (BN / TN), seal-less, single-stage pump with fully enclosed canned motor, uncooled, coolable or heatable. ATEX-compliant version available. Applications: Handling of aggressive, flammable, explosive, toxic, volatile or valuable liquids in the chemical and petrochemical industry.
		also available in 60 Hz

#### HT (Nikkiso-KSB)\* Chemical canned motor pump with explosion protection for special applications

- 300



DN	32 - 300
Q [m <sup>3</sup> /h]	max. 800
H [m]	max. 200
p [bar]	max. 40
T [°C]	max. +400
Data for 50 Hz operation	

Design: Horizontal (HT) or vertical (BT / TT), seal-less, single-stage pump with fully enclosed canned motor, coolable. ATEX-compliant version available.

Applications: Handling of aggressive, solids-containing, polymerizing, flammable, explosive, toxic, volatile or valuable liquids as well as thermal oils in the chemical and petrochemical industry.

#### HK (Nikkiso-KSB)\* Two-stage canned motor pump with explosion protection



DN	25 - 40
Q [m <sup>3</sup> /h]	max. 10
H [m]	max. 300
p [bar]	max. 40
T [°C]	max. +150
n [min <sup>-1</sup> ]	max. 8400
Data for $n = 8400 \text{ min}^{-1}$	

Design: Horizontal, seal-less pump with fully enclosed canned motor, two-stage design in tandem arrangement. ATEX-compliant version available.

Applications: Handling of aggressive, flammable, explosive, toxic, volatile or valuable liquids in the chemical and petrochemical industry. For small flow rates, high discharge heads and low NPSH<sub>R</sub>.

high speed, up to 130 Hz

#### VN (Nikkiso-KSB)\* Multistage canned motor pump with explosion protection

DN Q [m³/h] H [m] p [bar] T [°C] Data for 50 Hz operation	40 - 100 max. 140 max. 450 max. 40 max. +180	<b>Design:</b> Horizontal, seal-less pump with fully enclosed canned motor, multistage. ATEX-compliant version available. <b>Applications:</b> Handling of aggressive, flammable, explosive, toxic, volatile or valuable liquids in the chemical and petrochemical industry. For high discharge heads.

also available in 60 Hz

#### **DN** (Nikkiso-KSB)\* Self-priming canned motor pump with explosion protection



DN	32 - 50
Q [m³/h]	max. 40
H [m]	max. 60
p [bar]	max. 40
T [°C]	max. +180
Data for 50 Hz operation	

Design: Horizontal, seal-less pump with fully enclosed canned motor, single-stage, self-priming. ATEX-compliant version available.

Applications: Handling of aggressive, flammable, explosive, toxic, volatile or valuable liquids in the chemical and petrochemical industry. Self-priming pump for draining of tanks and unloading of tanks and tank trucks.

also available in 60 Hz

35

## **Process pumps**

#### **RPH**<sup>®</sup> OH2 process pump to API 610

	DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] Data for 50 Hz operation	25 - 400 max. 4150 max. 270 max. 51 max. +450	Design: Horizontal, radially split volute casing pump in API 610, ISO 13709 (heavy-duty), with radial impeller, si centreline pump feet; with inducer, if required. ATEX-con Applications: Refineries, petrochemical and chemical	ngle-stage, single-entry, npliant version available.
Hyamaster			Reference no. 1312.5 / 1316.51	also available in 60 Hz

#### RPHb BB2 process pump to API 610

DN Q [m³/h] H [m] p [bar] T [°C] Data for 50 Hz operatio	50 - 150 max. 450 max. 400 max. 100 max. +450	<ul> <li>Design: Horizontal, radially split volute casing pump in back pull-out design to API 610 and / or VDMA 24 297, Class A (heavy-duty), with radial impeller, single-entry, two-stage design, back-to-back impeller arrangement, centreline pump feet.</li> <li>Applications: Refineries, petrochemical and chemical industry.</li> </ul>
		also available in 60 Hz

#### RPH-V VS4 process pump to API 610

DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] Data for 50 Hz operation	40 - 150 max. 80 max. 240 max. 35 max. +230	<b>Design:</b> Vertical, radially split volute casing pump to API 610 and ISO 13709 (heavy-duty), with radial impeller, single-entry, single-stage. <b>Applications:</b> Refineries, petrochemical and chemical industry.
		also available in 60 Hz

#### RPHmdp Standardised chemical pump with mag-drive to API 685

DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] Data for 50 Hz operat suitable for 50 and 60	<b>Design:</b> Horizontal, radially split volute casing pump in back pull-out design to API 685, ISO 13709 (heavy-duty), single-stage, single-entry, with radial impeller and centreline pump feet; with inducer, if required. ATEX-compliant. <b>Applications:</b> Refineries, petrochemical and chemical industry, power stations.
	Reference no. 1316.27/01/1316.8017/01/1316.57/01 available in 50 Hz and 60 Hz

#### Reference no. 1316.27/01/1316.8017/01/1316.57/01 available in 50 Hz a

#### **CTN** Chemical vertical shaft submersible pump

-	-		
DN Q [m³/h] H [m] p [bar] T [°C] Data for 50 Hz op suitable for 50 an	25 - 250 / 250 - 400 max. 950 max. 115 max. 16 max. +300 eration, d 60 Hz operation	dry installation, single- or double-stage, si available. ATEX-compliant version availab	ggressive liquids, also slightly contaminated or
		Reference no. 2711.5	available in 50 Hz and 60 Hz

## **Process pumps**

#### API series (Nikkiso-KSB)\* Refinery pump

Ň.	DN Q [m³/h] H [m] p [bar] T [°C]
	Data for 50 Hz

DN	1½ - 6
Q [m <sup>3</sup> /h]	max. 360
H [m]	max. 220
p [bar]	max. 40
T [°C]	max. +450
Data for 50 Hz operation	

**Design:** Horizontal or vertical canned motor pump to API 685, single-stage, with centreline pump feet; also available with inducer.

**Applications:** HNP: for clean liquids; HTP: for hot fluids; HSP / HMP: for contaminated or polymerising fluids; HRP: for fluids with a steep vapour pressure curve such as liquefied gases.

also available in 60 Hz

#### CHTR BB5 high-pressure pump to API 610

DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz operat higher values availabl	<b>Design:</b> Horizontal, high-pressure barrel-type pun double-entry, multistage, with flanges / weld end r <b>Applications:</b> In refineries, in the petrochemical plants.	nozzles to DIN, API 610 and ANSI.
	Reference no. 2701	also available in 60 Hz

#### YNKR BB2 process pump to API 610

DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz operation higher values available to	<b>Design:</b> Horizontal, radially split, single-stage, double volute casing made of cast steel, in accordance with A <b>Applications:</b> In refineries, in the petrochemical induand in steam generation plants.	PI 610.
	Reference no. 1139.21	also available in 60 Hz

#### **CINCP / CINCN** Vertical immersion pump for sumps and tanks

IJ	DN         32 - 2           Q [m³/h]         max. 7           H [m]         max. 1           p [bar]         max.           T [°C]         -10 to +1           n [min <sup>-1</sup> ]         max. 30           Data for 50 Hz operation	<ul> <li>installation. Semi-open impeller, pump shaft without guide bearing, supported by ball</li> <li>bearings in the upper section. Supplied with discharge pipe extending above the</li> <li>baseplate (CINCP) or without discharge pipe (CINCN). ATEX-compliant version available.</li> <li>Applications: Chemical and petrochemical industry, raw materials extraction processes</li> </ul>
Hyamaster		also suitable for 60 Hz operation

#### **INVCP / INVCN** Vertical immersion pump for sumps and tanks

IJ	DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz operation	32 - 300 max. 1600 max. 116 max. 10 -10 to +100 max. 3000	Design: Centrifugal vertical sump pump, for wet or dry well installation, available with closed or semi-open impeller. Supplied with discharge pipe extending above the baseplate (INVCP) or without discharge pipe (INVCN). ATEX-compliant version available. Applications: Handling of chemically aggressive, slightly contaminated or solids-laden fluids in the chemical and petrochemical industries.
📕 Hyamaster			also suitable for 60 Hz operation

## **Process pumps**

#### **RWCP / RWCN** Vertical immersion pump for sumps and tanks

Ţ	DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz operatio	50 - 200 max. 700 max. 100 max. 16 -10 to +100 max. 3000	<ul> <li>Design: Process pump with free-flow, semi-open or two- / three-channel impeller.</li> <li>Shaft sealed by mechanical seal or gland packing with various API pipework plans.</li> <li>Oil-lubricated bearings. ATEX-compliant version available.</li> <li>Applications: Refineries, chemical and petrochemical industry, steel factories, descaling systems, raw materials extraction processes and waste water management.</li> </ul>
Hyamaster			also suitable for 60 Hz operation

### WKTR VS6 condensate pump to API 610

DN Q [m <sup>3</sup> /h] H [m] p [bar] Install. depth [m] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz operation	40 - 150 max. 400 max. 500 max. 51 1.6 max. 200 max. 3000	Design: Vertical can-type ring-section pump. Type VS multistage, first-stage impeller designed as suction in ATEX-compliant version available. Applications: Pumping of condensate and other NI systems, particularly in refineries and petrochemical p	npeller, radial impellers. PSH critical products in industrial
		Reference no. 1765.11	also available in 60 Hz

# Rainwater harvesting systems

Hya-Rain<sup>®</sup> / Hya-Rain<sup>®</sup> N Rainwater harvesting system with one pump

Rp Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] Data for 50 Hz operation	1 max. 4 max. 43 max. 6 max. +35	<b>Design:</b> Ready-to-connect package rainwater harvesting system. Automatic mains water back-up if the rain water storage tank is empty, with integrated dry-running protection. Automated with automatic control unit. <b>Applications:</b> Rainwater and service water utilization, irrigation and spray irrigation systems.
		Reference no. 5602.51

### Hya-Rain<sup>®</sup> Eco Rainwater harvesting system with one pump

Rp Q [m³/h] H [m] p [bar] T [°C] Data for 50 Hz operation	1 max. 4 max. 43 max. 6 max. +35	<b>Design:</b> Ready-to-connect package rainwater harvesting system. Automatic mains water back-up function if the rain water storage tank is empty, with integrated dry-running protection. <b>Applications:</b> Rainwater and service water utilization, irrigation and spray irrigation systems.
		Reference no. 5605.5



# **Domestic water supply / swimming pools**

### Multi Eco<sup>®</sup> Multistage, self-priming centrifugal pump

	Rp Q [m³/h] H [m] p [bar] T [°C] n [min°1]	1 - 1¼ max. 8 max. 54 max. 10 max. +50 max. 2800	<b>Design:</b> Multistage, self-priming centrifugal pump in close-coupled design. <b>Applications:</b> Single- or two-family houses, agricultural facilities, spray irrigation and irrigation systems, washing plants, water supply and rainwater harvesting systems.
Controlmatic, Cervomatic			Reference no. 5180.5

#### Multi Eco®-Pro Multistage, self-priming centrifugal pump with automatic control unit

Rp Q [m³/h] H [m] p [bar] T [°C] n [min°1]	1 - 1¼ max. 8 max. 54 max. 10 max. +50 max. 2800	<b>Design:</b> Multistage, self-priming centrifugal pump in close-coupled design, with power cable, plug and Controlmatic E automatic control unit switching the pump on and off as consumers are opened / closed and protecting the pump against dry running. Automated with automatic control unit. <b>Applications:</b> Single- or two-family houses, agricultural facilities, spray irrigation and irrigation systems, washing plants, water supply and rainwater harvesting systems.
		Reference no. 5182.5

### Multi Eco<sup>®</sup>-Top Domestic water supply system

	Rp	1 - 1¼	<b>Design:</b> Multistage, self-priming centrifugal pump in close-coupled design incl.
	Q [m³/h]	max. 8	accumulator with replaceable membrane in drinking water quality, total volume 20 or
	H [m]	max. 54	50 l, pressure switch for automatic pump operation and 1.5 m power cable. Automated
	p [bar]	max. 7	with automatic control unit.
	T [°C]	max. +50	<b>Applications:</b> Single- or two-family houses, agricultural facilities, spray irrigation and
	n [min <sup>-1</sup> ]	max. 2800	irrigation systems, washing plants, water supply and rainwater harvesting systems.
68			Reference no. 5181.5

### Movitec<sup>®</sup> VME High-pressure in-line pump in close-coupled design

	Rp Q [m³/h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz operation	1½ max. 9 max. 48 max. 16 max. +60 max. 2900	<ul> <li>Design: Multistage, vertical (horizontal installation upon request) high-pressure centrifugal pump, with suction and discharge nozzles of identical nominal diameters arranged opposite to each other (in-line design).</li> <li>Applications: Single- or two-family houses, agricultural facilities, spray irrigation and irrigation systems, washing plants, water supply and rainwater harvesting systems, pressure boosting, hot water and cooling water recirculation, fire-fighting systems.</li> </ul>
PumpMeter, Hyamaster			Reference no. 1798.5 also available in 60 Hz

#### **IXO** Submersible motor pump

	Rp Q [m <sup>3</sup> /h] H [m] T [°C] n [min <sup>-1</sup> ]	1¼ max. 8 max. 65 max. +35 max. 2900	Design: Fully or partly submerged, multistage, close-coupled centrifugal pump (min. immersion depth 0.1 m), low-level inlet, suction strainer with a max. mesh size of 2.5 mm. Applications: Water supply, spray irrigation and irrigation systems, washing plants, rainwater harvesting systems, water extraction from wells, tanks and cisterns.
Switchgears, Cervomatic			Reference no. 2146.5



## **Domestic water supply / swimming pools**

#### Filtra N Recirculating pump for swimming pool filtering systems

-		-
0	A	
	20	

Rp	2
Q [m³/h]	max. 36
H [m]	max. 21
p [bar]	max. 2.5
T [°C]	max. +35
n [min <sup>-1</sup> ]	max. 2800

Design: Self-priming, single-stage, close-coupled centrifugal pump. Applications: Handling of clean or slightly contaminated water, swimming pool water with a chlorine content of up to 0.3 %, ozonized swimming pool water with a salt content of up to 7 ‰.

## Pressure booster systems

Hya<sup>®</sup>-Solo EV Pressure booster system, 1 pump, with continuously variable speed control

Rp Q [m³/h] H [m] p [bar] T [°C] Data for 50 Hz opera	1¼ / 1½ max. 6 max. 50 max. 10 max. +60 tion, data for 2900 min <sup>-1</sup>	<ul> <li>Design: Fully automatic package pressure booster system, with 1 vertical high-pressure pump and continuously variable speed adjustment. Configuration and function to DIN 1988-500.</li> <li>Applications: Residential buildings, hospitals, office buildings, hotels, department stores, industry, and other applications.</li> </ul>
		Reference no. 1951.53

### Hya<sup>®</sup>-Solo D Pressure booster system, 1 pump

	Rp / DN Q [m³/h] H [m] p [bar] T [°C] Data for 50 Hz operation	1¼ / 100 max. 110 max. 150 max. 16 max. +70	<ul> <li>Design: Fully automatic package single-pump system with 8 l membrane-type accumulator, pressure-controlled starting and stopping.</li> <li>Applications: For industrial plants, water supply systems for residential and office buildings, irrigation / spray irrigation and rainwater harvesting systems, service water supply systems in trade and industry.</li> </ul>
•			Reference no. 1951.5

### Hya<sup>®</sup>-Solo DV Pressure booster system, 1 pump

	Rp / DN	1¼ / 100
1-1	Q [m³/h]	max. 110
	H [m]	max. 150
CTTP	p [bar]	max. 16
	T [°C]	max. +70
	Data for 2900 min <sup>.1</sup>	
- the fight	Data for 2900 min'	

Design: Fully automatic variable-speed package single-pump system with PumpDrive, pressure-controlled starting and flow-controlled stopping. Automated with PumpDrive. Applications: For industrial plants, water supply systems for residential and office buildings, irrigation / spray irrigation and rainwater harvesting systems, service water supply systems in trade and industry.

## Pressure booster systems

### Hya<sup>®</sup>-Compact K Pressure booster system, 2 pumps

Rp / DN         1¼ / 40           Q [m³/h]         max. 10           H [m]         max. 100           p [bar]         max. 10           T [°C]         max. +40           Data for 50 Hz operation, data for 2900 min <sup>-1</sup>	<ul> <li>Design: Fully automatic package pressure booster system with integrated standby pump. Two vertical high-pressure pumps in cascade operation, automated with BoosterControl Advanced. Integrated pressure transmitter for the suction and discharge side, respectively. Two standard volt-free changeover contacts for fault indication as standard. Configuration and function to DIN 1988-500. Stationary floor-mounted or wall-mounted installation.</li> <li>Applications: For industrial plants, water supply systems for residential and office buildings, irrigation/spray irrigation and rainwater harvesting systems, service water supply systems in trade and industry.</li> </ul>
	Reference no. 1972.5

### Hya®-Compact VP Pressure booster system, 2 pumps

	Rp / DN Q [m³/h] H [m] p [bar] T [°C]	1¼ / 40 max. 10 max. 100 max. 10 max. 40	<b>Design:</b> Fully automatic package pressure booster system with integrated standby pump. Two vertical high-pressure pumps with continuously variable speed adjustment by BoosterControl Advanced. Two standard volt-free changeover contacts integrated for fault indication. Configuration and function to DIN 1988-500. Stationary floor-mounted or wall-mounted installation.
Data for 50 Hz	Data for 50 Hz operat	ion, data for 2900 min <sup>.1</sup>	Applications: For industrial plants, water supply systems for residential and office buildings, irrigation / spray irrigation and rainwater harvesting systems, service water sup- ply systems in trade and industry.
			Reference no. 1972.5

Hya<sup>®</sup>-Eco VP Pressure booster system with continuously variable speed control of each pump

Rp / DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] Data for 3500 min <sup>1</sup>	2 / 80 max. 70 max. 120 max. 16 max. +70	<b>Design:</b> Fully automatic package pressure booster system, with 2 or 3 vertical high- pressure pumps and continuously variable speed adjustment of each pump for fully electronic control of the required supply pressure, with two standard volt-free changeover contacts for fault indication. Configuration and function to DIN 1988-500. Automated with BoosterControl Advanced. <b>Applications:</b> Residential buildings, hospitals, office buildings, hotels, department stores, industry, and other applications.
		Reference no. 1967.52

## Hyamat<sup>®</sup> K Pressure booster system, 2 to 6 pumps

Rp / DN Q [m³/h] H [m] p [bar] T [°C]	1½ / 250 max. 660 max. 160 max. 16 max. +70	<b>Design:</b> Fully automatic package pressure booster system, with 2 to 6 vertical high-pressure pumps, fully electronic control to ensure the required supply pressure, with volt-free changeover contact for general fault indication and live-zero monitoring of the connected sensors, configuration and functions to DIN 1988-500. Automated with BoosterControl Advanced.
Data for 50 Hz operation		Applications: Residential buildings, hospitals, office buildings, hotels, department stores, industry, etc.
		Reference no. 1952.5

## Hyamat<sup>®</sup> V Pressure booster system with continuously variable speed adjustment of one pump

Rp / DN	1½ / 250	<b>Design:</b> Fully automatic package pressure booster system, with 2 to 6 vertical high-
Q [m³/h]	max. 660	pressure pumps and continuously variable speed adjustment of one pump for fully
H [m]	max. 150	electronic control of the required supply pressure. Configuration and functions to
p [bar]	max. 16	DIN 1988-500. Automated with BoosterControl Advanced.
T [°C]	max. +70	<b>Applications:</b> Pressure boosting in residential buildings, hospitals, office buildings,
Data for 2900 min <sup>-1</sup>	max. 170	

Reference no. 1953.51

## Pressure booster systems

Hyamat<sup>®</sup> VP Pressure booster system with continuously variable speed control of each pump

Rp / DN Q [m³/h] H [m] p [bar] T [°C] Data for 2900 min1	11/2 / 250 max. 660 max. 150 max. 16 max. +70	<ul> <li>Design: Fully automatic package pressure booster system, with 2 to 6 vertical high-pressure pumps and continuously variable speed control of each pump by PumpDrive speed control system. For fully electronic control of the required supply pressure. Configuration and functions to DIN 1988-500.</li> <li>Automated with BoosterControl Advanced and PumpDrive.</li> <li>Applications: Pressure boosting in residential buildings, hospitals, office buildings, hotels, department stores, industry, etc.</li> </ul>
		Reference no. 1953.52

Hyamat<sup>®</sup> IK, IV, IVP Pressure booster system for industrial applications

DN Q [m³/h] H [m] p [bar] T [°C] Data for 50 Hz operation	100 - 200 max. 640 max. 160 max. 16 max. +70	<b>Design:</b> Fully automatic package pressure booster system, with 2 to 4 vertical high- pressure pumps and fully electronic control to ensure the required supply pressure, configuration and functions to DIN 1988-500. Automated with PLC. <b>Applications:</b> Handling of service water and cooling water not chemically or mechanically aggressive to the pump materials in industry, etc.
		Reference no. 1950.5

Drainage pumps / waste water pumps

Ama-Drainer<sup>®</sup> N 301, 302, 303, 358 Submersible motor pump

	Rp         11           Q [m³/h]         ma           H [m]         n           T [°C]         max. +50 (301, 30)           max. +50         300           Data for 50 Hz operation	<ul> <li>single-stage, with or without level control, max. immersion depth 2 m.</li> <li>Applications: Automatic drainage of pits, shafts, yards and cellars subject to a flooding risk, lowering of surface water levels, dewatering, drainage of underground passages,</li> </ul>
Switchgears, LevelControl		Reference no. 2331.51 / 2331.52

### Ama-Drainer® 400/10 400/35 500/10/11 Submersible motor pump

	Rp Q [m <sup>3</sup> /h] H [m] T [°C] Data for 50 Hz operation	1½ - 2 max. 50 max. 24 max. +40	<b>Design:</b> Vertical, fully floodable submersible motor pump in close-coupled design, IP 68, single-stage, with or without level control, max. immersion depth 10 m. <b>Applications:</b> Automatic drainage of pits, shafts, yards and cellars subject to a flooding risk, lowering of surface water levels, dewatering, drainage of underground passages, water extraction from rivers and reservoirs, disposal of highly contaminated, fibre-containing water.
Switchgears, LevelControl			Reference no. 2331.53

## Drainage pumps / waste water pumps

### Ama-Drainer® 80, 100 Submersible motor pump

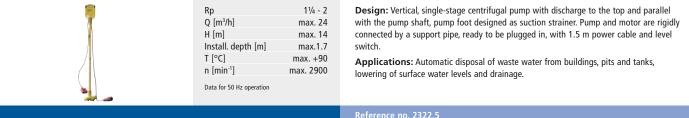
42

	Rp / DN Q [m³/h] H [m] T [°C] Data for 50 Hz operation	2½ / 100 max. 130 max. 26 max. +50	Design: Vertical, fully floodable submersible motor pump in close-coupled design, IP 68, single-stage, with or without level control, max. immersion depth 10 m. Applications: Automatic drainage of pits, shafts, yards and cellars subject to a flooding risk, lowering of surface water levels, dewatering, drainage of underground passages, water extraction from rivers and reservoirs.
Switchgears, LevelControl			Reference no. 2331.54

### Ama-Porter<sup>®</sup> F / S Submersible motor pump

	DN Q [m³/h] H [m] T [°C] Data for 50 Hz operati	50 - 65 max. 40 max. 21 max. +40	<b>Design:</b> Vertical, fully floodable submersible waste water pump in close-coupled design (cast iron variant), single-stage, without explosion protection. <b>Applications:</b> Handling of all types of waste water.
Switchgears, LevelControl			Reference no. 2539.51
<b>Rotex</b> <sup>®</sup> Waste water pump			

### Notex waste water pump



#### MK / MKY Waste water, condensate and heat transfer liquid pump

	Rp / DN Q [m <sup>3</sup> /h] H [m] Install. depth [m] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz operation	2 / 50 max. 36 max. 19 max. 2.8 max. +200 max. 3500	Design: Vertical submersible pump with three-channel impeller, volute casing designed as suction strainer. Applications: Handling of condensate and heat transfer liquids below the boiling point, condensate return systems, primary and secondary heating circuits, direct installation in heating tanks or heat exchangers in the secondary circuits of heat transfer systems (MKY).
Switchgears, LevelControl			Reference no. 2324.5

## Lifting units / pump stations

### AmaDS<sup>3</sup> Waste water pump station with solids separation system

	Inflow rate [m³/h]       6 - 200         H [m]       max. 85         T [°C]       depending on pump         n [min <sup>-1</sup> ]       depending on pump         Viscosity [cP] depending on pump         Higher values available upon request	<b>Design:</b> Waste water pump station with solids separation system. Indirect hydraulic transport of waste water, with solids separators upstream of the pumps, for maximum economic efficiency, operating reliability and ease of maintenance. <b>Applications:</b> Municipal and industrial waste water transport. Applications with special drainage requirements, e.g. hotels, hospitals, campgrounds, etc.
EvelControl		Reference no. 2581 / 2567.021

### Ama-Drainer-Box Automatic waste water lifting unit

DN Q [m <sup>3</sup> /h] H [m] T [°C] Data for 50 Hz operation	40 - 50 max. 46 max. 24 max. +40	<b>Design:</b> Stable above-floor or impact-resistant underfloor plastic collecting tank with floor drain and odour trap, both variants with Ama-Drainer submersible motor pump starting and stopping automatically and swing check valve. Automated with switchgear and LevelControl. Volumetric tank content: 100 or 200 litres. To EN 12050. <b>Applications:</b> Washbasins, showers, washing machines, garage gateways, basements, rooms at risk of flooding, etc.
		Reference no. 2336.51

### Ama-Drainer-Box Mini Automatic waste water lifting unit

DN Q [m³/h] H [m] T [°C] Data for 50 Hz operation	40 max. 10 max. 6.5 max. +35	<ul> <li>Design: Reliable and compact waste water lifting unit in a modern design with activated carbon filter meeting hygiene requirements and with shower connection as a standard. To EN 12050-2.</li> <li>Applications: Automatic drainage of washbasins, showers, washing machines, dishwashers, etc.</li> </ul>
		Reference no. 2336.52

### mini-Compacta Floodable sewage lifting unit

xxx (b)	DN         32 - 100           Q [m³/h]         max. 36           H [m]         max. 25           T [°C]         max. +40           up to +65 for short periods   Data for 50 Hz operation	<b>Design:</b> Floodable single-pump or dual-pump sewage lifting unit for automatic disposal of domestic sewage and faeces below the flood level. Automated with LevelControl. <b>Applications:</b> Basement flats, bars, basement party rooms and saunas, cinemas and theatres, department stores and hospitals, hotels, restaurants, schools, etc.
		Reference no. 2317.54

## **Compacta<sup>®</sup>** Floodable sewage lifting unit

DN Q [m <sup>3</sup> /h] H [m] T [°C] up to +65 f Data for 50 Hz operation	80 - 100 max. 140 max. 24 max. +40 for short periods	<b>Design:</b> Floodable single-pump or dual-pump sewage lifting unit for automatic disposal of sewage and faeces below the flood level. Automated with LevelControl. <b>Applications:</b> Basement flats, bars, basement party rooms and saunas, cinemas and theatres, department stores and hospitals, hotels, restaurants, schools, public buildings, industrial plants, joint sewage disposal for rows of houses, etc.
		Reference no. 2317.55

## Lifting units / pump stations

CK 800-Eu Pump Station Pump station, plastic collecting tank with Amarex N S and Ama-Porter S

DN Q [m <sup>3</sup> /h] H [m] T [°C] Data for 50 Hz operation	32 - 50 max. 22 max. 49 max. +40	<ul> <li>Design: Ready-to-connect package single or dual pump station with PE-LLD (polyethylene) collecting tank for underground installation. Equipped with one or two Amarex N S and Ama-Porter S submersible waste water pumps without explosion protection.</li> <li>Collecting tank design to DIN 1986-100 and EN 752 / EN 476.</li> <li>Automated with LevelControl.</li> <li>Applications: Renovation of premises, sewage disposal in various sectors, joint sewage disposal for several residential units, pumped drainage.</li> </ul>
		Reference no. 2334.543

### Ama-Porter CK Pump Station Pump station, plastic collecting tank with Ama-Porter F

1.	DN Q [m³/h] H [m] T [°C] Data for 50 Hz operation	50 - 65 max. 40 max. 21 max. +40	<b>Design:</b> Ready-to-connect package single or dual pump station with PE-LLD (polyethyl- ene) collecting tank for underground installation. Equipped with one or two Ama-Porter F submersible waste water pumps without explosion protection. Collecting tank design to DIN 1986-100 and EN 752 / EN 476. Automated with switchgears and LevelControl. <b>Applications:</b> Renovation of premises, sewage disposal in various sectors, joint sewage disposal for several residential units, pumped drainage.
			Reference no. 2334.51

#### Amarex N CK Pump Station Pump station, plastic collecting tank with Amarex N F

disposal for several residential units, pumped drainage.		T [°C] max. +40 design to DIN 1986-100 and EN 752 / EN 476. Automated with LevelControl.	1			<b>Design:</b> Ready-to-connect package single or dual pump station with PE-LLD (polyethyl- ene) collecting tank for underground installation. Equipped with one or two Amarex N F submersible waste water pumps, also available with explosion protection. Collecting tank design to DIN 1986-100 and EN 752 / EN 476. Automated with LevelControl. <b>Applications:</b> Renovation of premises, sewage disposal in various sectors, joint sewage disposal for several residential units, pumped drainage.
Data for 50 Hz operation         Applications: Renovation of premises, sewage disposal in various sectors, joint sewage	T [°C] max. +40 design to DIN 1986-100 and EN 752 / EN 476. Automated with LevelControl.		1 1 1	H [m]	max. 39	submersible waste water pumps, also available with explosion protection. Collecting tank
T [°C]       max. +40       design to DIN 1986-100 and EN 752 / EN 476. Automated with LevelControl.         Data for 50 Hz operation       Applications: Renovation of premises, sewage disposal in various sectors, joint sewage		H [m] max. 39 submersible waste water pumps, also available with explosion protection. Collecting tank		Q [m <sup>3</sup> /h]	max. 50	ene) collecting tank for underground installation. Equipped with one or two Amarex N F
H [m]       max. 39         T [°C]       max. +40         Data for 50 Hz operation       Data for 50 Hz operation    Applications: Renovation of premises, sewage disposal in various sectors, joint sewage	H [m] max. 39 submersible waste water pumps, also available with explosion protection. Collecting tank		The second se	DN	50 - 65	Design: Ready-to-connect package single or dual pump station with PE-LLD (polyethyl-

### Evamatic-Box Sewage lifting unit



DN	50 - 65
Q [m³/h]	max. 40
H [m]	max. 21
T [°C]	max. +40
Data for 50 Hz operation	

**Design:** Single-pump or dual-pump sewage lifting unit with one or two Ama-Porter submersible waste water pumps with free-flow impeller (F) or cutter (S), to EN 12050-1. **Applications:** Disposal of domestic waste water and sewage.

Reference no. 2319.51

## Submersible motor pumps

Amarex<sup>®</sup> N S32 Submersible motor pump DN 32

		DN Q [m <sup>3</sup> /h] H [m] T [°C] Data for 50 Hz operation	32 max. 16.5 max. 29.5 max. +40	Design: Vertical, single-stage submersible motor pump, for wet installation, stationary and transportable design. Amarex N pumps are floodable, single-stage, single-entry close-coupled units which are not self-priming. ATEX-compliant version available. Applications: Handling of all types of waste water, especially untreated sewage containing long fibres and solid substances, fluids containing gas / air, as well as raw, activated and digested sludge, dewatering / water extraction, drainage of rooms and surfaces subject to a flooding risk.
Switchgears, LevelControl Reference no. 2563.51	Switchgears, LevelControl			Reference no. 2563.51

Amarex<sup>®</sup> N Submersible motor pump DN 50 to 100

	DN Q [m³/h] H [m] T [°C] Data for 50 Hz operation	50 - 100 max. 190 max. 49 max. +60	Design: Vertical, single-stage submersible motor pump or transportable design. Amarex N pumps are floodable close-coupled units which are not self-priming. ATEX-co Applications: Handling of all types of waste water, e containing long fibres and solid substances, fluids conta activated and digested sludge, dewatering / water extra surfaces subject to a flooding risk.	e, single-stage, single-entry ompliant version available. specially untreated sewage aining gas / air, as well as raw,
Switchgears, LevelControl			Reference no. 2563.5	also available in 60 Hz

Amarex<sup>®</sup> KRT<sup>®</sup> Submersible motor pump DN 40 to DN 700

	DN Q [m <sup>3</sup> /h] H [m] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz operation	40 - 700 max. 10080 max. 120 max. +60 max. 2900	<ul> <li>Design: Vertical, single-stage submersible motor pur impeller types, for wet or dry installation, stationary an ATEX-compliant version available.</li> <li>Applications: Handling of all types of abrasive or ag waste water engineering as well as industry, especially fibres and solid substances, fluids containing gas / air, and digested sludge; seawater desalination.</li> </ul>	nd transportable version. ggressive waste water in water and y untreated sewage containing long
PumpDrive, Hyamaster, Amacontrol, Switchgears, LevelControl			Reference no. 2553.5	also available in 60 Hz

## Amarex<sup>®</sup> KRT<sup>®</sup> dry-installed, with cooling jacket Submersible motor pump DN 100 to DN 700

	DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz operat	100 - 700 max. 10080 max. 120 max. 10 max. +40 max. 1450	Design: Vertical, single-stage submersible mot impeller types, dry installation. Applications: Handling of all types of waste industry, especially sewage containing long fibr gas / air, as well as raw, activated and digested	water in waste water engineering and res and solid substances, fluids containing
PumpDrive, Hyamaster, Amacontrol, Switc	hgears, LevelCont	rol	Reference no. 2553.5	also available in 60 Hz

## Amarex<sup>®</sup> KRT<sup>®</sup> wet / dry, with energy-saving motor Submersible motor pump DN 80 to DN 200

	DN Q [m³/h] H [m] T [°C] n [min'1] Data for 50 Hz operation	80 - 200 max. 550 max. 25 max. +40 max. 1450	<b>Design:</b> Horizontal or vertical single-stage submersible design, with various impeller types, for wet or dry instal transportable version, with energy-saving motor. <b>Applications:</b> Handling of all types of waste water in industry, especially sewage containing long fibres and s gas / air, as well as raw, activated and digested sludge.	ation, stationary and waste water engineering and
PumpDrive, Hyamaster, Amacontrol, Switchgears, LevelControl		Reference no. 2553.5	also available in 60 Hz	

## Submersible pumps in discharge tubes

## Amacan<sup>®</sup> K Submersible motor pump with non-clogging impeller

	DN Q [m³/h] H [m] T [°C] n [min <sup>.1</sup> ] Data for 50 Hz operatio	700 - 1400 max. 7200 max. 30 max. +40 max. 980	Design: Wet-installed submersible motor pr single-entry, for installation in discharge tub Applications: Handling of pre-cleaned, ch effluents and sewage, fluids not containing a and sills, as waste water, mixed water and a plants, irrigation and drainage pumping syste	emically neutral waste water, industrial any stringy substances pretreated by screens ctivated sludge pump in effluent treatment
Hyamaster, Amacontrol			Reference no. 1579.5	also available in 60 Hz

### Amacan<sup>®</sup> P Submersible motor pump with axial propeller

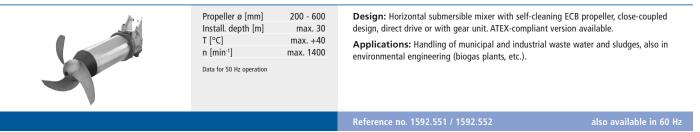
	DN Q [m³/h] H [m] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz operation	500 - 1500 max. 25200 max. 12 max. +40 max. 1450	Design: Wet-installed, submersible motor pump w for installation in discharge tubes, single-stage, sing available. Applications: Irrigation and drainage pumping st handling of raw and clean water in water and efflur in power stations and industrial plants, industrial w and flood control systems, aquaculture.	gle-entry. ATEX-compliant version ations, stormwater pumping stations, ent treatment plants, of cooling water
Hyamaster, Amacontrol			Reference no. 1580.5	also available in 60 Hz

### Amacan<sup>®</sup> S Submersible motor pump with mixed flow impeller

	DN Q [m <sup>3</sup> /h] H [m] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz operation	650 - 1300 max. 10800 max. 40 max. +30 max. 1450	Design: Wet-installed submersible motor pump wi for installation in discharge tubes. ATEX-compliant v Applications: Handling of water without stringy s drainage pumping systems, general water supply systems.	version available. Substances in irrigation and
Hyamaster, Amacontrol			Reference no. 1589.5	also available in 60 Hz

## Mixers / agitators / tank cleaning units

Amamix Submersible mixer



### Amaprop Submersible agitator

R	Propeller ø [mm] Install. depth [m] T [°C] n [min <sup>-1</sup> ]	1000 - 2500 max. 30 max. +40 max. 109	<b>Design:</b> Horizontal submersible agitator with self-cleaning ECB propeller, close-coupled design, equipped with coaxial spur gear. ATEX-compliant version available. <b>Applications:</b> In environmental engineering, particulary for circulating, keeping in suspension and inducing flow in municipal and industrial waste water and sludges; in nitrification and denitrification tanks, activated sludge tanks, mixing tanks, final storage tanks, biological phosphate elimination tanks, flocculation tanks and in biogas applications.
			Reference no. 1592.505

### Amajet Cleaning system

DN	100 - 150	Design: Stationary or portable unit with horizontal or vertical submersible motor
Q [m³/h]	max. 195	propulsive jet pump with non-clogging free-flow impeller. Motor rating 5.5 to 27 kW.
T [°C]	max. +40	Available variants: Amajet, SewerAmajet, SwingAmajet, MultiAmajet.
n [min <sup>-1</sup> ]	max. 1450	Applications: Cleaning of stormwater tanks and storage sewers.

#### Amaline Submersible motor recirculation pump

DN Q [m³/h] H [m] T [°C] n [min <sup>-1</sup> ]	300 - 800 max. 5400 max. 2 max. +40 max. 960	<b>Design:</b> Wet-installed, horizontal propeller pump with submersible motor, equipped with spur gear or direct drive, ECB propeller with 3 rigid, fibre-repellent blades, bolt-free connection to the discharge pipe. ATEX-compliant version available. <b>Applications:</b> Recirculation of activated sludge in waste water treatment systems.
		Reference no. 1594.5

## **Pumps for solids-laden fluids**

### Sewatec<sup>®</sup> / Sewabloc Dry-installed volute casing pump

	DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz operation	50 - 700 60 - 10000 max. 95 max. 10 max. +70 max. 2900	<b>Design:</b> Horizontal or vertical volute casing pump with free-fi multi-channel (K) and diagonal single vane (D) impellers, disch ANSI standards. ATEX-compliant version available. <b>Applications:</b> Handling of sewage and all types of waste wa management and industry.	arge flange to DIN and
🛑 Hyamaster, PumpDrive, LevelControl			Reference no. 2580.5 / 2580.45 / 2580.35	also available in 60 Hz

### KWP® / KWP®-Bloc Non-clogging impeller centrifugal pump / close-coupled unit

	- 900 (1000) 5000 (18000) max. 100 max. 10 -40 to +120 (max. +280) max. 2900	<ul> <li>Design: Horizontal, radially split volute casing pump in back pull-out or close-coupled design, single-stage, single-entry, available with various impeller types: non-clogging impeller, open multi-channel impeller, free-flow impeller.</li> <li>ATEX-compliant version available.</li> <li>Applications: Handling of pre-treated sewage, waste water, all types of slurries without stringy substances and pulps up to 5 % bone dry.</li> </ul>
Hyamaster		Reference no. 2361.5 / 2362.5 / 2361.450 / 2361.453 / 2361.460

# **Slurry pumps**

#### WBC Slurry pump



Q [m³/h]	max. 13600
H [m]	max. 80
o [bar]	max. 40
[°C]	max. +120

**Design:** Patented design incorporates state-of-the art hydraulic and wear technologies for heavy-duty, high-pressure applications. The pump shell is designed to reduce stresses that can cause a structural failure during a pressure surge.

**Applications:** Ideal for ore and tailings transport to minimize the effect of sudden pressure spikes.

#### LSA-S Slurry pump



Q [m³/h]	max. 14000
H [m]	max. 90
p [bar]	max. 16
T [°C]	max. +120

**Design:** Premium design hard iron pumps for long wear life pumping severe slurries. The basic, single-wall construction and heavy section, hard metal wet end combined with the cartridge bearing assembly provides maximum reliability and ease of maintenance.

Applications: Pumps are widely used in ore transport, mill discharge, cyclone feed, tailings and plant process.

# **Slurry pumps**

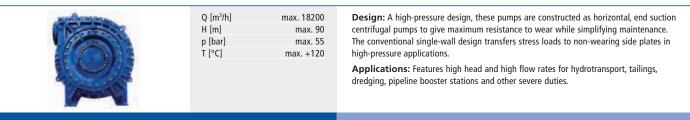
### LCC-M Slurry pump

Q [m³/h] H [m] p [bar] T [°C]	max. 3865 max. 90 max. 16 max. +120	<ul> <li>Design: The hydraulic wet end consists of three components: a shell or casing, an impeller and a suction plate / liner to permit easy removal for maintenance and inspections.</li> <li>Applications: Reliable pumps for high discharge head, mildly corrosive slurries and a wide range of particle sizes. Used in mineral processing, mine dewatering, ash and tailings.</li> </ul>

### LCC-R Slurry pump

Q [m³/h] H [m] p [bar] T [°C]	max. 3865 max. 90 max. 16 max. +120	<b>Design:</b> Interchangeable rubber and metal design allows best material choice for any application. Easy wet end change can adapt existing pumps to new applications. <b>Applications:</b> Pumps are suitable for moderate discharge heads, fine particles and highly corrosive slurries.

### TBC Slurry pump



### LCV Slurry pump

Q [m³/h] H [m] p [bar] T [°C]	max. 1360 max. 38 max. 14 max. +120	Design: Vertical cantilever, rugged hard metal sump pump with bottom suction and no submerged bearings. Replaceable wet end parts in metal alloys with a durable mechanical end. Applications: Ideal for industrial process pumping, tailings disposal in mining and pit use.

### FGD Slurry pump

Q [m³/h] H [m]	max. 22700 max. 45
p [bar]	max. 45
T [°C]	max. +120

**Design:** High-flow / low-head hard metal pumps with a single-wall shell design. High-efficiency impeller. Suction-side liner is equipped with integrated mounting plates. **Applications:** Absorber recirculation and ancillary process pumps.

# **Slurry pumps**

#### Mega Slurry pump



Q [m³/h]	max. 45
H [m]	max. 30
p [bar]	max. 24
T [°C]	max. +120

Design: Horizontal, end suction, modified volute casing pump includes 3 vane open design impeller for large solids passage.

Applications: High-performance, low maintenance slurry pump recommended for coarse or fine particles from solids-laden waste water to aggressive slurries of an abrasive nature.

### **HHD** Slurry pump



Q [m³/h]	max. 14400
H [m]	max. 90
p [bar]	max. 29
T [°C]	max. +120

Design: Best suited for high-flow, high-head pumping where high production requires the reduction in the number of pumps.

Applications: Ideal for pipeline booster stations and severe mining duties. Also, as booster or main hull pump on cutter suction dredges.

### MHD Slurry pump



Q [m³/h]	max. 32000
H [m]	max. 80
p [bar]	max. 28
T [°C]	max. +120

Design: Designed to provide high flow / medium head with high efficiency for high volume transportation in long pipelines.

Applications: Ideal for pipeline booster stations and severe mining duties. Also for hopper dredges or as main pump on cutter dredges.

### **LHD** Slurry pump



Q [m³/h]	max. 21600
H [m]	max. 65
p [bar]	max. 17
T [°C]	max. +120

Design: High-flow / low-head design with balanced NPSHR and sphere passage for high volume transportation over short distance.

Applications: Ideal for sand and gravel, severe mining, dredge ladder and booster pumps.

#### **MDX** Slurry pump



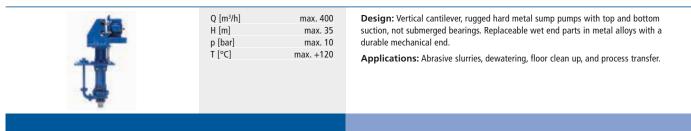
Q [m³/h]	max, 14000
Q [III-/II]	IIIdX. 14000
H [m]	max. 90
p [bar]	max. 16
T [°C]	max. +120

Design: The latest technology from GIW provides superior wear life and increased up-time handling your most aggressive slurry applications.

Applications: Designed for SAG and ball mill discharge duties as well as cyclone feed and screen feed applications in ore mining.

# **Slurry pumps**

**ZW** Slurry pump



### HVF Slurry pump

Q [m³/h] H [m] p [bar] T [℃]	max. 400 max. 35 max. 10 max. +120	<b>Design:</b> Provides continuous operation without shutdown or operator intervention. The new hydraulic design removes air from the impeller eye while the pump is running, and the pump can be retrofitted into any existing operation. <b>Applications:</b> For use in all froth pumping applications in both the mineral processing and industrial minerals industries.

# Self-priming pumps

Etaprime<sup>®</sup> L Self-priming pump for pure or contaminated liquids

DN Q [m³/h] H [m] p [bar] T [°C] Data for 50 Hz operation	25 - 125 max. 180 max. 85 max. 10 max. +90	Design: Horizontal, long-coupled, self-priming volute casing design, single-stage, with open multi-vane impeller. ATEX-com Applications: Handling of pure, contaminated or aggressive abrasive substances and / or solids.	pliant version available.
		Reference no. 2745.5	also available in 60 Hz

### Etaprime<sup>®</sup> B / BN Self-priming close-coupled pump for pure or contaminated liquids

DN Q [m³/h] H [m] p [bar] T [°C] Data for 50 Hz operation	25 - 100 max. 130 max. 72 max. 10 max. +90	Design: Horizontal, self-priming volute casing pump, single-stage, with open multi-vane impeller, in close-coupled design, with common pump and motor shaft (B) or rigidly connected (BN). ATEX-compliant version available. Applications: Handling of pure, contaminated or aggressive liquids not containing abrasive substances and / or solids.

Reference no. 2746.5

51

# Self-priming pumps

### **MZ** Self-priming multistage liquid ring pump

DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz operation	20 - 50 max. 21 max. 140 max. 16 -5 to +120 max. 1500

Design: Self-priming multistage liquid ring pump in close-coupled design, with mechanical seal or gland packing.

Applications: Boiler feed, sanitary hot water, hydrophore systems for fresh and seawater, and fresh water pre-heating.

# Submersible borehole pumps

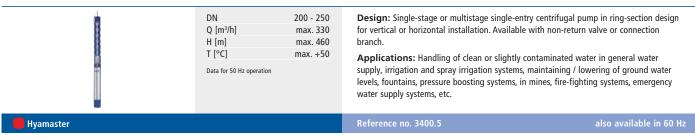
### **S 100D / UPA 100C** Submersible borehole pump

	DN Q [m³/h] H [m] T [°C]	100 max. 16 max. 400 max. +30	<b>Design:</b> Multistage centrifugal pump in ring-section design, for vertical or horizontal installation, impellers made of plastic (S 100D) or stainless steel (UPA 100C) for well diameters of 100 mm (4 inches) and above, available with single-phase a.c. motor or three-phase motor with motor lead.		
Data for 50 Hz operation			Applications: Domestic water supply, irrigation and spray irr of ground water levels, fire-fighting systems, cooling circuits, fountains, pressure boosting and air-conditioning systems.	igation systems, lowering	
Switchgears, Cervomatic			Reference no. 3400.5	also available in 60 Hz	





### UPA 200, 200B, 250C Submersible borehole pump



# Submersible borehole pumps

### UPA 300, 350 Submersible borehole pump

	DN Q [m <sup>3</sup> /h] H [m] T [°C] Data for 50 Hz operation	300 - 350 max. 840 max. 480 max. +50	Design: Single- or multistage, single-entry cent vertical or horizontal installation. Non-return val Mixed flow hydraulic systems available with redu Applications: Handling of clean or slightly cor supply, irrigation and spray irrigation systems, m levels, in mines, fire-fighting systems, fountains, o	ve or connection branch on option. uced impeller diameters. ntaminated water in general water aintaining / lowering of ground water
Hyamaster			Reference no. 3400.5	also available in 60 Hz

### UPZ, BSX-BSF Submersible borehole pump

H [m] m	ax. 2200 pump in ring-section design for	, single-entry (BSX-BSF) or double-entry (UPZ) centrifugal r vertical or horizontal installation. ean or slightly contaminated water, maintaining / lowering s.
	Reference no. 3470.021	also available in 60 Hz

#### **BEV** Deep-well vertical turbine pump

t	DN Q [m³/h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz operation	80 - 400 max. 2200 max. 350 max. 40 +5 to +75 max. 3000	<ul> <li>Design: Vertical multistage deep-well turbine pump with closed impellers. Column section with bearing, shaft sleeve; shaft sealed by gland packing. Driven by electric motor or diesel engine. ATEX-compliant version available.</li> <li>Applications: Handling of clean water, agriculture, irrigation and collection, public water supply, industry, fire-fighting, etc.</li> </ul>
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also available in 60 Hz

## High-pressure pumps, fixed / variable speed

### Movitec<sup>®</sup> V / LHS / VS / VC High-pressure in-line pump

	Rp / DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz operat	1 - 2 / 25 - 100 max. 113 max. 401 max. 40 max. +140 max. 2900	Design: Multistage, vertical high-pressure cen suction and discharge nozzles of identical nomi other (in-line design), close-coupled. ATEX-com Applications: Spray irrigation, irrigation, was pressure boosting systems, hot water and cooli etc.	inal diameters arranged opposite to each pliant version available. shing, water treatment, fire-fighting and
PumpMeter, Hyamaster			Reference no. 1798.5	also available in 60 Hz

### Movitec® VCI High-pressure in-line pump

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	Rp / DN Q [m³/h] H [m] p [bar] T [°C] n [min⁻¹] Data for 50 Hz open	1¼ - 2 / 32 - 45 max. 27 max. 250 max. 40 max. +120 max. 2900	Design: Multistage, vertical high-pressure immo on a tank or platform. Applications: Machine tools, industrial machir painting systems.	
PumpMeter, Hyamaster			Reference no. 1798.54	also available in 60 Hz

Movitec® PumpDrive High-pressure in-line pump with motor-mounted variable speed system

	DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ]	25 - 100 max. 113 max. 401 max. 40 max. +140 max. 2900	Design: Multistage, vertical high-pressure of suction and discharge nozzles of identical no other (in-line design), close-coupled and mot Applications: Spray irrigation, irrigation, w pressure boosting systems, hot water and co- etc.	minal diameters arranged opposite to each or-mounted variable speed system.
📳 🛑 PumpMeter			Reference no. 1798.5 + 4070.5	also suitable for 60 Hz operation

### Multitec<sup>®</sup> High-pressure pump in ring-section design

	DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz and	32 - 150 max. 850 max. 630 (1000) max. 63 (100) -10 to +200 max. 4000	Design: Multistage horizontal or vertical cen long-coupled or close-coupled, with axial or ra turned in steps of 90°, cast radial impellers. A Applications: Water and drinking water sup boosting systems, irrigation systems, in power reverse osmosis and washing plants, snow gu	adial suction nozzle, discharge nozzle can be TEX-compliant version available. oply systems, general industry, pressure stations, heating, filter, fire-fighting,
🛑 PumpMeter, Hyamaster, PumpDrive			Reference no. 1777.5	available in 50 Hz and 60 Hz

Multitec® PumpDrive High-pressure pump in ring-section design with motor-mounted variable speed system

	DN Q [m³/h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ]	32 - 125 max. 180 max. 630 max. 43 max. +140 max. 4000	Design: Multistage horizontal or vertical cer long-coupled and close-coupled variant, with impellers and motor-mounted variable speed Applications: Water and drinking water sup boosting systems, irrigation systems, in power reverse osmosis and washing plants, snow ge	axial or radial suction nozzle, cast radial system. oply systems, general industry, pressure stations, heating, filter, fire-fighting,
🚯 🛑 PumpMeter			Reference no. 1777.5 + 4070.5	also suitable for 60 Hz operation

## **Axially split pumps**

Omega<sup>®</sup> Axially split volute casing pump DN 80-350

	DN Q [m <sup>3</sup> /h] H [m] p [bar] Tstandard model [°C] Thot water model [°C] n [min <sup>-1</sup> ] Data for 50 Hz operation, higher values available upp	80 - 350 max. 2880 max. 210 max. 25 max. +80 max. +140 max. 2900	Design: Single-stage, axially split volute casing pump installation, with double-entry radial impeller, mating fl Applications: For handling water with a low solids of irrigation and drainage pumping stations, desalination power plants, fire-fighting systems, shipbuilding, distric	anges to DIN, EN or ASME. ontent, e.g. in waterworks, systems for water extraction,
Hyamaster, PumpMeter			Reference no. 1384.5 / 1384.3940	also available in 60 Hz

### **RDLO** Axially split volute casing pump DN 350-700

DN Q [m <sup>3</sup> /h] H [m] p [bar] Tstandard model [°C] Thot water model [°C] n [min <sup>-1</sup> ] Data for 50 Hz operation, higher values available upc	350 - 700 max. 10000 max. 240 max. 25 max. +80 max. +140 max. 1500	Design: Single-stage, axially split volute casing pump installation with double-entry radial impeller, mating f Applications: For handling water with a low solids irrigation and drainage pumping stations, desalination power plants, fire-fighting systems, shipbuilding, distri	langes to DIN, EN or ASME. content, e.g. in waterworks, systems for water extraction,
		Reference no. 1387.5 / 1387.391	also available in 60 Hz

### **RDLP** Axially split volute casing pump DN 350-1200

	DN Q [m <sup>3</sup> /h] H [m] p [bar] T <sub>standard model</sub> [°C] n [min <sup>-1</sup> ] Data for 50 Hz operation, higher values available upo	350 - 1200 max. 18000 max. 550 max. 64 max. +80 max. 1500	<b>Design:</b> Single-, two- or three-stage, axially split volute casing pump for horizontal installation with double-entry radial impeller, mating flanges to DIN, ISO or ANSI. <b>Applications:</b> For handling water with a low solids content in water works and long-distance water supply systems.
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also available in 60 Hz

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# **Hygienic pumps**

### Vitachrom<sup>®</sup> Rolled steel centrifugal pump

	DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] Data for 50 Hz operation	50 - 125 max. 340 max. 100 max. 12 max. +140	back pull-out design. The pump features a semi-open impeller and electropolished surfaces. It is very easy to clean by CIP and SIP thanks to its almost complete lack of dear volume or narrow clearances. Its wetted components are made of 1.4404/1.4409	
Hyamaster, PumpDrive			Reference no. 1966.5	also available in 60 Hz
Vitacast <sup>®</sup> Investment cast ce	ntrifugal pump			
and and	DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C]	25 - 150 max. 560 max. 100 max. 10 max. +140	Design: Maintenance-friendly volute casing pump components made of 1.4404/1.4409 (AISI 316L/CF. little dead volume; open impeller, electropolished s design for the highest requirements on cleanability TNO Nutrition and Food Research Institute to EHEL trolley (accessory).	3M) stainless steel. Designed with very surface, excellent efficiency. Hygienic / (CIP/SIP-compatible), certified by the
	Data for 50 Hz operation, other values available upon request		Applications: Hygienic handling of fluids in the	food, beverage and pharmaceutical

Applications: Hygienic handling of fluids in the food, beverage and pharmaceutical industries as well as in the chemical industry.

PumpDrive

## Vitaprime<sup>®</sup> Self-priming centrifugal pump

-	DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] Data for 50 Hz operatio other values available u	<b>Design:</b> Maintenance-friendly self-priming side channe all wetted components made of 1.4404/1.4409 (AISI 316 design for the highest requirements on cleanability (CIP/ with a trolley (accessory). <b>Applications:</b> Hygienic handling of fluids in the food, industries as well as in the chemical industry.	6L/CF3M) stainless steel. Hygienic /SIP-compatible). Also available
PumpDrive		Reference no. 1969.54	also available in 60 Hz

## Vitastage<sup>®</sup> Multistage centrifugal pump

<b>1</b>	Q [m³/h] H [m] p [bar] T [°C]	max. 40 max. 150 max. 16 max. +140	Design: Multistage centrifugal pump in close-coup installation. All wetted components made of 1.4401 steel. Versatile, robust and especially energy-efficien Applications: Processes in the food and beverage	1/1.4408 (AISI 316/CF8M) stainless t.
Data for 50 Hz operation, other values available upon request		industry with moderate hygienic requirements.		
PumpDrive			Reference no. 1969.55	also available in 60 Hz

### Vitalobe<sup>®</sup> Rotary lobe pump

	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Design: Sturdy rotary lobe pump in hygienic design, bi-direc horizontal and vertical orientation of connections. Hygienic do wetted components made of 1.4404/1.4409 (AISI 316L/CF3M rotor types and process connections available. Pump set with with a trolley (accessory). Applications: Hygienic and gentle handling of sensitive or food, beverage and pharmaceutical industries as well as in th general process engineering.	esign, CIP/SIP-compatible, all ) stainless steel; various geared motor. Also available high-viscosity fluids in the
Frequency inverter		Reference no. 1969.53	also available in 60 Hz

# Pumps for power station conventional islands

### CHTA / CHTC / CHTD Boiler feed pump

DN Q [m³/h] H [m] p [bar] T [°C] n [min <sup>1</sup> ] Data for 50 Hz operat higher values available	Design: Horizontal, high-pressure barrel-type pun double-entry, multistage, with flanges / weld end r Applications: Handling of feed water and conde facilities, generation of pressurized water for bark equipment.	nozzles to DIN and ANSI.
	Reference no. 1860.1	also available in 60 Hz

### HGB / HGC<sup>®</sup> / HGD Boiler feed pump

DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz operation higher values available u	<b>Design:</b> Horizontal, radially split, multistage ring single- or double-entry. <b>Applications:</b> Handling of feed water and cond facilities, generation of pressurized water for bark snow guns, etc.	ensate in power stations and industrial
	Reference no. 1850.02	also available in 60 Hz

### HGM<sup>®</sup> Boiler feed pump

DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz operation higher values available	Design: Horizontal, radially split, product-lubricated, m radial impellers, axial and radial single-entry inlet. Applications: Handling of feed water in power statio condensate in industrial facilities.	
	Reference no. 1856.02	also available in 60 Hz

### YNK Boiler feed booster pump

DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz operation higher values available u	Design: Horizontal, radially split, single-stage, double (booster system) with single or double cast steel volute Applications: Handling of feed water in power statio	e casing.
	Reference no. 1135.021	also available in 60 Hz

### LUV<sup>®</sup> / LUVA Boiler recirculation pump

DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Higher values availabl	100 - 550 max. 7000 max. 300 max. 350 max. +380 max. 3600 e upon request	stage. Suitable for very high inlet pressure: motor to VDE. Product-lubricated bearings, ASME or IBR.	adial impellers, single-entry, single- to three- s and temperatures. Integrated wet winding , no need for oil supply systems. Design to TRD, forced-circulation, forced-flow and combined- and in solar power towers.
		Reference no. 1128.023	available in 50 Hz and 60 Hz

## Pumps for power station conventional islands

### **WKTB** Condensate pump

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DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz operation, higher values available upon r	150 - 300 max. 1500 max. 370 max. 40 max. +100 max. 1500	Design: Vertical can-type ring-section pump, underfloor assembly on baseframe, multistage, first stage designed as double-entry suction impeller, radial impellers. Flanges to DIN or ANSI. Applications: Pumping of condensate in power stations and industrial systems.
		Reference no. 0361.033

### SEZ / SEZT / PHZ / PNZ Tubular casing pump

Q [m³/h] H [m] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz opera higher values availab	propeller (PHZ) or axial propeller (PNZ). F	
	Reference no. 1471.02	available in 50 Hz and 60 Hz

### SNW / PNW Tubular casing pump

DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz operation, higher values available upo	350 - 800 max. 9000 max. 50 max. 10 max. +60 max. 1500	<b>Design:</b> Vertical tubular casing pump with mixed fl (PNW), single-stage, with maintenance-free Residur arranged above or below floor. <b>Applications:</b> Irrigation and drainage systems, sto of raw and pure water, water supply systems, handli	shaft bearings, discharge nozzle rmwater pumping stations, handling
		Reference no. 1481.5 / 1591.5	available in 50 Hz and 60 Hz

#### Beveron Concrete volute casing pump

Q [m³/s] H [m] Data for 50 Hz operat higher values availabl	Design: Concrete volute casing pump v with maintenance and lubricant-free Res Applications: Coast protection and flo low-lift pumping stations, reservoir filling raw and pure water.	idur bearings.
	Reference no. 1.471.021	available in 50 Hz and 60 Hz

#### **SPY** Cooling water pump

	DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz operation, higher values available up		<b>Design:</b> Long-coupled, single-stage volute casing pump in back pull-out design. <b>Applications:</b> Drainage, irrigation and water supply systems, handling of condensate, cooling water, service water, etc.
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Reference n

## Pumps for nuclear power plants

### **RER** Reactor coolant pump

DN Q [m³/h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Higher values availab	max. 800 max. 40000 max. 140 max. 175 max. +350 max. 1800 le upon request	Design: Vertical, single-stage reactor coolan plated on the inside, with diffuser; either with supported by motor bearing. Applications: Reactor coolant recirculation	h integrated pump thrust bearing or shaft
		Reference no. 1682.021	available in 50 Hz and 60 Hz

### **RSR** Reactor coolant pump

DN         max. 750           Q [m³/h]         max. 24000           H [m]         max. 215           p [bar]         max. 175           T [°C]         max. +350           n [min <sup>-1</sup> ]         max. 1800           Higher values available upon request	supported by motor bearing. Applications: Reactor coolant recirculation in BWR).	
	Reference no. 1665.021	available in 50 Hz and 60 Hz

#### RUV Reactor coolant pump

DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Higher values available	max. 650 max. 22000 max. 111 max. 155 max. +350 max. 1800 e upon request	Design: Vertical, single-stage reactor coolan wet winding motor and integrated flywheel. I systems required. Applications: Reactor coolant recirculation (PWR).	Product-lubricated bearings, no oil supply
		Reference no. 1669.021	available in 50 Hz and 60 Hz

### **PSR** Reactor internal pump

DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [min <sup>1</sup> ] Higher values available	max. 600 max. 9000 max. 45 max. 75 max. +300 max. 2000 upon request	<b>Design:</b> Vertical pump set integrated in the rewith leak-free, low-maintenance wet winding a <b>Applications:</b> Reactor coolant recirculation	motor.
		Reference no. 1576.021	available in 50 Hz and 60 Hz

#### **RHD** Feed water pump

DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Higher values available up	125 - 500 max. 6500 max. 1000 max. 150 max. +210 max. 6500	<b>Design:</b> Horizontal, single-stage, double-entry main forged variant. <b>Applications:</b> Main feed water supply (MFWS) in s power plants.	
		Reference no. 1668.023	available in 50 Hz and 60 Hz

## **Pumps for nuclear power plants**

#### LUV® Nuclear Reactor coolant / reactor water clean-up pump

DN Q [m³/h] H [m] p [bar] T [°C] Higher values available	40 - 600 max. 7000 max. 300 max. 320 max. +430	Design: Vertical pump with integrated motor, for very high inlet pressures and temperatures. Product-lubricated bearings, no need for oil su KTA, etc. Applications: As reactor water clean-up pun coolant pump RCP in boiling water and pressu pump in test facilities.	Integrated wet winding motor to VDE. pply systems. Design to ASME Section 3, np RWCP in boiling water reactors, reactor
		Potoronco no. 1129.022	available in 50 Hz and 60 Hz

#### **RHM** Pump for safety-related and auxiliary systems

DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Higher values available	max. 150 max. 300 max. 2100 max. 220 max. +180 max. 8000	<b>Design:</b> Horizontal, multistage barrel pull-ou <b>Applications:</b> Core flooding, emergency coc RHRS, chemical and volume control systems C and medium-pressure safety injection systems water systems EFWS, start-up and shutdown f charging.	Jing and residual heat removal systems VCS, control rod drive systems CRDS, high- HPSI / LPSI / MHSI / LHSI, emergency feed
		Reference no. 1666 021	available in 50 Hz and 60 Hz

#### **RVM** Pump for safety-related and auxiliary systems

DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Higher values available	max. 85 max. 50 max. 200 max. 200 max. +100 max. 6000 upon request	Design: Vertical, multistage barrel pull-out pump. Applications: Core flooding, emergency cooling an RHRS, chemical and volume control systems CVCS, hig injection systems HPSI / LPSI.	,
		Reference no. 0166.021	available in 50 Hz and 60 Hz

#### RHR Pump for safety-related and auxiliary systems

DN max. 500 <b>Design:</b> Horizontal annular casing pump with forged or cast pressure boundary and		
Q [m³/h]       max. 600         H [m]       max. 600         P [bar]       max. 630         P [bar]       max. 630         T [°C]       max. 4200         n [min <sup>-1</sup> ]       max. 3600		

#### **RVR** Pump for safety-related and auxiliary systems

	DN	max. 500
	Q [m <sup>3</sup> /h]	max. 6000
and the second second	H [m]	max. 190
	p [bar]	max. 63
14	T [°C]	max. +200
200	n [min <sup>-1</sup> ]	max. 3600
And and the second states.		
135		

**Design:** Vertical annular casing pump with forged or cast pressure boundary and diffuser.

**Applications:** Core flooding, emergency cooling and residual heat removal systems RHRS / RNS, ancillary systems, acid feed system and low-pressure injection system LPSI, component cooling water system CCWS, essential service water system ESWS.

Reference no. 1662.021

available in 50 Hz and 60 Hz

## Pumps for desalination by reverse osmosis

### **RPH®-RO** Booster pump



### HGM®-RO High-pressure pump

DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz operat higher values availab	Design: Horizontal, radially-split, product-lub radial impellers and plain bearings. Axial and super-duplex stainless steel variant also suital Applications: High-pressure pump for RO so	radial single-entry inlet. Duplex and ole for chilled water applications.
	Reference no. 1582.12	also available in 60 Hz

### Multitec®-RO High-pressure pump in ring-section design

	Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz and 60	50 - 150 max. 850 max. 1000 max. 100 max. +45 max. 4000	Design: Horizontal, multistage pump in ri discharge nozzle can be turned in steps of super-duplex stainless steel. Applications: High-pressure pump for R	90°. Closed radial impellers. In duplex or
Hyamaster, PumpDrive			Reference no. 1777.5	available in 50 Hz and 60 Hz

### Salino® Pressure Center High-pressure pump with integrated energy recovery device

	Q [m <sup>3</sup> /h] p [bar] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz and 60	max. 23 max. 100 max. +50 max. 1750 Hz operation	<b>Design:</b> Axial piston pump with integrated e super-duplex stainless steel. Product-lubricate <b>Applications:</b> RO seawater desalination for	d (oil-free).
Hyamaster, PumpDrive			Reference no. 1859.81	available in 50 Hz and 60 Hz

## **Positive displacement pumps**

### RC / RCV Helical gear pump

	DN	20 - 100
	Q [m³/h]	max. 78
The	H [m]	max. 100
	p [bar]	max. 10
	T [°C]	+5 to +80
	n [min <sup>-1</sup> ]	max. 1500
	Data for 50 Hz operation	

Design: Helical gear pump, self priming, with by-pass valve, available in close-coupled design, horizontal design with baseplate, or vertical design. With mechanical seal. Applications: Fuel feed, fuel, lube oil and viscous fluids transfer, lubrication systems.

also suitable for 60 Hz operation

#### **IPR** Reciprocating piston pump

DN Q [m³/h] H [m] p [bar] T [°C] n [min <sup>-1</sup> ] Data for 50 Hz operati	80 - 150 max. 150 max. 70 max. 10 +5 to +50 max. 1500	<b>Design:</b> Reciprocating piston pump. Vertical installation, with gearbox to reduce crankshaft speed to below 270 rpm. <b>Applications:</b> Bilge, deck washing and fire-fighting.
		also suitable for 60 Hz operation

# **Fire-fighting systems**

#### **FFS** Fire-fighting system

12.0000	DN	32 - 300
Concession of Concession, Name	Q [m <sup>3</sup> /h]	max. 840
and the second s	H [m]	max. 140
	p [bar]	max. 16
	T [°C]	+5 to +50
The second second second	n [min <sup>-1</sup> ]	max. 3000
A ME IN COLUMN	Data for 50 Hz operation	

Design: Automatic fire-fighting system, consisting of jockey pump and one or several duty pumps, with electric motor or diesel engine. Includes manifold, valves, accessories and control unit. To EN 12845, CEA 4001, UNE-23500, NFPA-20, FM, etc.

Applications: Office buildings, hotels, industry, shopping malls, etc.

also suitable for 60 Hz operation

#### **FFU** Fire-fighting system

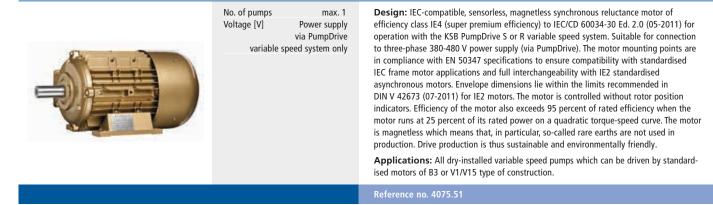


DN	32 - 350
Q [m <sup>3</sup> /h]	max. 2500
H [m]	max. 150
p [bar]	max. 25
T [°C]	+5 to +50
n [min <sup>-1</sup> ]	max. 3000
Data for 50 Hz operation	

Design: Automatic fire-fighting system, consisting of pumps with electric motor or diesel engine and control unit. To EN 12845, CEA 4001, UNE-23500, NFPA-20, FM, etc. Applications: Office buildings, hotels, industry, shopping malls, etc.

## **Automation and drives**

SuPremE® Magnetless synchronous reluctance motor of efficiency class IE4 to IEC/CD 60034-30 Ed. 2.0



## **Control units**

Controlmatic E Automatic control unit

No. of pumps Voltage [V]	max. 1 1~230	<b>Design:</b> Single-pump control system for starting, stopping and monitoring pumps. <b>Applications:</b> Water supply systems, in combination with pump types Multi Eco, Multichrom S, Ixo, S 100D, etc.
		Reference no. 5125.53

### Controlmatic E.2 Automatic control unit

No. of pumps Voltage [V]	max. 1 1~230	<b>Design:</b> Single-pump control system for starting, stopping and monitoring pumps. <b>Applications:</b> Water supply systems, in combination with pump types Multi Eco, Multichrom S, Ixo, S 100D, etc.
		Reference no. 5125.1785

### Cervomatic EDP.2 Automatic control unit

No. of pumps	max. 1	<b>Design:</b> Single-pump control unit for pressure-controlled starting and either pressure-controlled or flow-controlled stopping as well as monitoring pumps.
Voltage [V]	1~230 / 3~400	<b>Applications:</b> In water supply systems using, for example, Multi Eco, Ixo, S 100D and UPA 150C.

## **Control units**

### LevelControl Basic 2 Level control unit



 No. of pumps
 max. 2

 [kW]
 max. 22

 Voltage [V]
 1~230 / 3~400

 Higher values available upon request

**Design:** Level control unit for controlling up to two pumps. Direct starting up to 4 kW, star-delta starting up to 22 kW.

**Applications:** Tank drainage via float switches, pneumatic or bubbler control in building services and waste water applications.

#### Reference no. 4041.5

### **UPA Control** Control system for submersible borehole pumps



No. of pumps	max. 1	Desi
[kW]	3	pump
Voltage [V]	1~230 / 3~400	Арр

Design: Single-pump control unit for submersible borehole pumps, submersible motor
pumps and dry-installed pumps.
Applications: Water supply systems, in combination with pump types S 100D,
UPA 150S, etc.

#### Reference no. 3465.1

#### hyatronic N Pump control system for cascade starting and stopping



 No. of pumps
 max. 6

 [kW]
 22

 Voltage [V]
 3~400

 Higher values available upon request

**Design:** Pump control system in control cabinet for cascade starting and stopping of up to 6 pumps on the mains.

Applications: Water supply systems.

Reference no. 0543.5026

## Speed control systems

#### PumpDrive Self-cooling, motor-independent variable-speed system

No. of pumps FI 1 [kW] Voltage [V]	max. 6 per pump / motor 45 3~380 to 480	<ul> <li>Design: Self-cooling frequency inverter which allows the motor speed to be varied continuously by means of standard signals and a field bus. Because PumpDrive is self-cooling, it can be mounted on the motor, on the wall or in a cabinet. Control of up to 6 pumps without an additional controller (with PumpDrive Advanced).</li> <li>Applications: Cooling circuits, filters, water supply systems, heating, ventilation and air-conditioning systems, spray irrigation systems, boiler feed systems, steam generation plants, process engineering circuits, cooling lubricant supply systems, service water supply systems and other process engineering applications.</li> </ul>
		Reference no. 4070.5

#### hyatronic spc Pump control system for continuously variable speed adjustment

······································	No. of pumps Fl [kW] Voltage [V]	max. 1 max. 1 7.5 3~400	Design: Single-pump control system for continuously variable speed adjustment with integrated frequency inverter. Applications: Heating, ventilation, air-conditioning, water supply and drainage systems.
			Reference no. 0973.5

### Hyamaster ISB Pump control system for continuously variable speed adjustment

No. of pumps FI [kW] Voltage [V]	max. 8 max. 2 200 3~400	<ul> <li>Design: Control system for pumps with three-phase motors of all types and makes, consisting of a KSB controller with display and control panel and all required power components.</li> <li>Applications: Industrial and process engineering circuits, service water supply, cooling and lubrication, energy supply in cogeneration plants, heat transfer and district heating stations, water extraction and treatment, water supply and waste water disposal.</li> </ul>
		Reference no. 1961.5

## Hyamaster SPS Pump control system for continuously variable speed adjustment

No. of pumps Fl [kW] Voltage [V]	max. 4 1 per pump 650 3~400	<ul> <li>Design: Control system for pumps with three-phase motors of all types and makes, consisting of a programmable logic controller (PLC) with display and control panel and all required power components housed in a control cabinet.</li> <li>Applications: Process engineering circuits, service water supply, cooling and lubrication systems, cogeneration plants, heat transfer and district heating stations, water extraction and treatment, water supply and waste water disposal.</li> </ul>
		Reference no. 1964.5

## **Monitoring and diagnostic systems**

#### PumpMeter Intelligent pressure transmitter



No. of pumps max. 1 Type see pump type series Installation factory-mounted, IP65 Voltage 24 V DC **Design:** The PumpMeter device is an intelligent pressure transmitter for pumps, with on-site display of measured values and operating data. The device consists of two pressure sensors and a display unit. It records the load profile of the pump in order to indicate any potential for optimising energy efficiency and availability. **Applications:** For monitoring the operation of a centrifugal pump.

Reference no. 4072.5

#### Amacontrol Monitoring system for submersible waste water pumps



No. of pumps max. 1 Type Amacan Installation mounting plate IP20 Voltage 230 V AC Design: Monitoring system for submersible waste water pumps with shutdown.

Reference no. 2316.5

# **Control system**

### **BOA-Systronic**®



No. of pumps	max. 1
PN	6 / 10 / 16
DN	20 - 200
Voltage [V]	24 VAC
T [°C]	+20 to +120

Higher values available upon request

**Design:** Energy-saving system for the coordinated operation of pump and control valve. The system provides an all-in solution designed to access untapped hydraulic savings potential. Irrespective of the pump technology used, it allows savings of 50 % in pump electricity while also reducing primary energy costs thanks to lower return flow temperatures. The system can be combined with all control systems and pumps with a 0-10 V control input. Straightforward integration in automation systems with optional BACnet gateway.

**Applications:** Supply temperature control in HVAC installations with volume flow rates of 0.5 to 185 m<sup>3</sup>/h and temperature differentials of 3 to 30 °K. Threaded (DN20) or flanged (DN25-DN200) line connections; suitable for upgrading installed systems and for new systems, for connection to all types of heat generators (boiler or district heating), all main feed manifolds, all control systems, all supply temperatures.

Reference no. 7540.1



