Technical Profile

HMD Kontro GT range

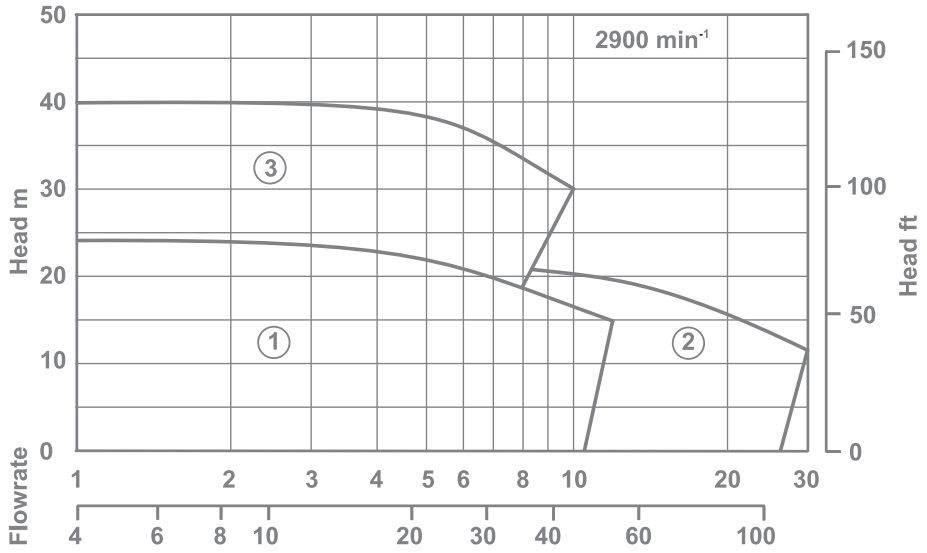
HMD Kontro

Magnet drive end suction centrifugal pumps for general applications

For general transfer duties, the GT pump has been specifically designed as a compact, cost-effective and minimum maintenance pump. The GT is sized below ASME / ISO dimensions and has a number of features, which make it one of the most highly competitive pumps in its class. Thanks to its simplicity of maintenance, space-saving design and interchangeability, the GT pump proves a very popular choice.

GT pumps are of a close coupled construction and can be supplied free standing or baseplate mounted. Prime mover specifications of all denominations can be catered for with a range of Synchronous Magnet Drives rated to match.

Performance of the GT range



Pump model

	GTA	GTI
1	1 x 1 x 5	25-25-125
2	2 x 1.5 x 5	50-40-125
3	1 x 1 x 6	25-25-160

Design range limits

The GT pump is designed to operate from -40°C up to +260°C,-40°F up to +500°F without the need for any ancillary cooling medium. Design working pressure is 18.9 bar, 275 psi.

Solids handling capability

The unit is capable of handling solids up to 5% w/w with 150microns.

Options

Materials of construction

Wetted parts	Alloy 20, Alloy C
Gasket	PTFE

Other options

Casing drains flanged or screwed
Jacketed pump casing
Large range of pump protection

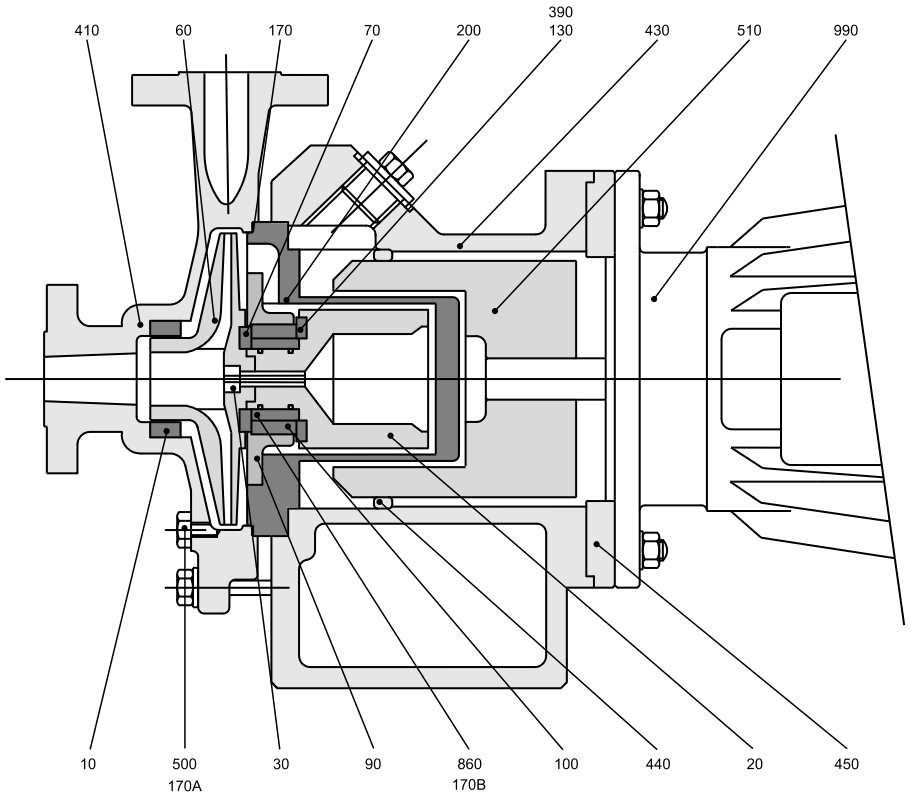
Key Design Features

- **No seals:** To minimise maintenance, all of the associated costs and eliminate potential leaks.
- **Sealless design:** For total containment, essential for hazardous, aggressive or valuable product.
- **Interchangeability of components:** For maximum convenience and reduced stock holding, operator training etc.
- **High efficiency wet end:** To benefit maximum flow / head coverage.
- **Wide choice of materials:** To allow a choice of various metals in the construction of your pump.
- **Casing gasket fully confined:** So eliminating risk of blowout.
- **Universal connection options:** So that suction and discharge flange connections can be configured to your exact requirements.
- **Modular rotating element cartridge:** Providing the most efficient way to perform replacements and manage your spare part inventory.

Benefits of GT pump range

- Sealless design for total product containment
- Low capital cost
- Compact modular design
- Low running costs
- Minimal downtime
- Supplied with ASME or ISO flanges

Construction of GT pumps



10	Neck Ring [Front]	316 Stainless Steel
20	Shaft / Inner Magnet Ring	316 Stainless Steel
30	Impeller Fixing	316 Stainless Steel
60	Impeller	316 Stainless Steel
70	Front Thrust Washer	Alpha SiC
90	Bush Holder	316 Stainless Steel
100	Bush	Alpha SiC
130	Thrust Pad	Alpha SiC
170	Casing Gasket	CSF
170A	Drain Gasket [Optional]	CSF
170B	'O' Ring	Viton A
200	Containment Shroud/Shell	316L Stainless Steel
390	Support Gasket	Exfol. Graphite
410	Casing	316 Stainless Steel
430	Coupling Housing	SG Iron
440	Coupling Hsg. Bump Ring	Phos. Bronze
450	Motor Adaptor	Carbon Steel
500	Pump Drain [Optional]	316 Stainless Steel
510	Outer Magnet Ring	Carbon Steel
860	Bearing Sleeve	Alpha SiC
990	Electric Motor	Proprietary
***	Fixings Kit	

Flanges and Connections

Casing

Suction and discharge flanges are designed in accordance with the following relevant standards:

ANSI B16.5 Class 150 + 300	Machined with 1.5mm (0.06") high raised face having a continuous spiral groove.
DIN 2543/2545 PN16 + PN40	Machined with a 2mm high raised face with a continuous spiral groove. (Note: these flanges are identical to BS4504 PN40.)

Flange Loadings

Allowable flange loadings imposed by pipework are in accordance with Table 4 of API 685 2nd edition and exceed the values in ISO 5199 Annex C.

Drain Connections

The following drain options are available:

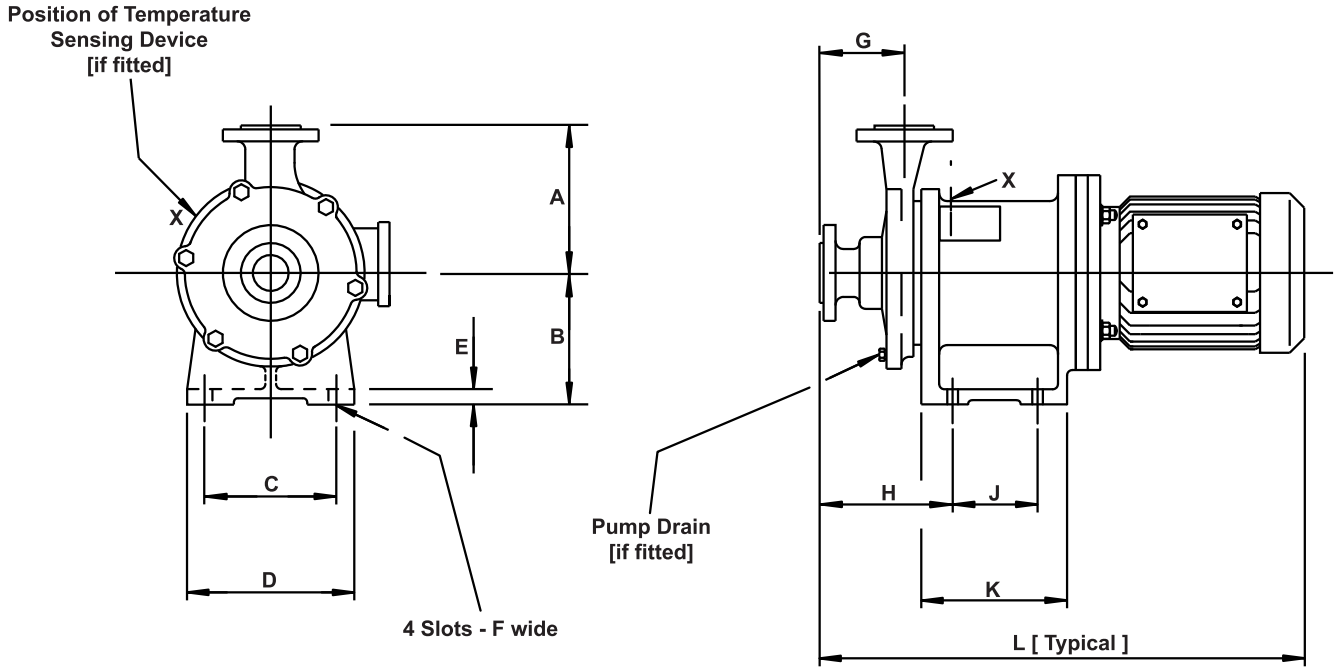
Standard: No drain, boss left undrilled.
Option1: 1/8" BSP drain plug fitted with fully trapped gasket.
Option 2: 3/8" NPT plug.
Option 3: 1/2" flanged drain rated to the casing flanges.

Gauge Connections:

No provision for gauge connection bosses has been made on this range.

Dimensions of GT pumps

Dimensions are for guidance only



Pump size	A	B	C	D	E	F	G	H	J	K	Motor Frame	L
1x1x5	160/6.3″	150/ 5.9″	150/5.9″	195/7.7″	15/0.6″	14/0.55″	85/3.35	144/5.7″	80/3.15″	147/5.8″	80	540/21.25″
1x1x6	160/6.3″	150/ 5.9″	150/5.9″	195/7.7″	15/0.6″	14/0.55″	105/4.13	164/6.5″	80/3.15″	147/5.8″	90S	560/22″
2x1.5x5	160/6.3″	150/ 5.9″	150/5.9″	195/7.7″	15/0.6″	14/0.55″	110/4.33	171/6.7″	80/3.15″	147/5.8″	90L	584/23″
											100L	650/25.6″
25-25-125	160/6.3″	150/ 5.9″	150/5.9″	195/7.7″	15/0.6″	14/0.55″	85/3.35	144/5.7″	80/3.15″	147/5.8″	112M	650/25.6″
25-25-160	160/6.3″	150/ 5.9″	150/5.9″	195/7.7″	15/0.6″	14/0.55″	105/4.13	164/6.5″	80/3.15″	147/5.8″	132S	700/27.5″
50-40-125	160/6.3″	150/ 5.9″	150/5.9″	195/7.7″	15/0.6″	14/0.55″	110/4.33	171/6.7″	80/3.15″	147/5.8″	143	570/22.5″
											145	570/22.5″
											182	625/24.5″
											184	670/26.4″
											213	700/27.5″
											215	745/29.3″

Dimensions shown are metric (mm) / imperial (inches).

Range capabilities

Model	Head	Flow	Temperature	Pressure	Viscosity Cst	Mounting
1x5x5	24 m 78 ft	11 m^3/h 48 usgpm	-40 to +260°C -40 to +500°	18.9 bar F275 psi	200	Close coupled (CC)
1x1x6	40 m 131 ft	10 m^3/h 44 usgpm	-40 to +260°C -40 to +500°F	18.9 bar 275 psi	200	Close coupled (CC)
2x1.5x5	22 m 72 ft	30 m^3/h 132 usgpm	-40 to +260°C -40 to +500°F	18.9 bar 275 psi	200	Close coupled (CC)
25-25-125	24 m 78 ft	11 m^3/h 48 usgpm	-40 to +260°C -40 to +500°F	16 bar 232 psi	200	Close coupled (CC)
25-25-160	40 m 131 ft	10 m^3/h 44 usgpm	-40 to +260°C -40 to +500°F	16 bar 232 psi	200	Close coupled (CC)
50-40-125	22 m 72 ft	30 m^3/h 132 usgpm	-40 to +260°C -40 to +500°F	16 bar 232 psi	200	Close coupled (CC)

Pressure Limits

All parts are to be rated to the pressures shown below at 38°C / 100°F

Flange standard	Design pressure		
	316 St St	Alloy 20	Alloy C
ANSI B16.5 Class 150 + 300	1.89 N/mm2 275 psi	1.59 N/mm2 230 psi	2.00 N/mm2 290 psi
BS 450 PN16 + PN40	41.60 N/mm2 232 psi	1.52 N/mm2 220 psi	1.60 N/mm2 232 psi
DIN 2543/2545 PN16 + PN40	1.60 N/mm 232 psi	21.52 N/mm2 220 psi	1.60 N/mm2 232 psi

Component	Hydrostatic test values		
	316 St St	Alloy 20	Alloy C
Casing (ANSI 150 + 300lb)	2.93 N/mm2 425 psi	2.41 N/mm2 350 psi	3.10 N/mm2 450 psi
Casing (PN16 + PN40)	2.40 N/mm2 348 psi	2.30 N/mm2 333 psi	2.40 N/mm2 348 psi
Containment Shroud/Shell	2.93 N/mm2 425 psi	2.41 N/mm2 350 psi	3.10 N/mm2 450 psi

Temperature limits

Standard Range	-40°C to 150°C / -40°F to 300°F
Option	-40°C to 260°C / 40°C / 500°F

For sub zero temperatures a suitable sealing compound (Loctite Multi Gasket or similar) is used to prevent the ingress of moisture into the coupling housing between the containment shroud/shelland motor adaptor assembly interface.

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