Technical Profile



GSA/GSI frame 0

Magnet drive, end suction, centrifugal pumps to ISO 2858 / DIN. EN 22858:1993 / ANSI B73.3M

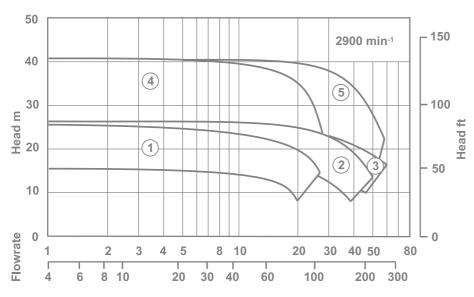
A versatile range of general service pumps designed to cover a wide duty and application base using the minimum of pump models by maximising interchangeability of components. Available within the range is the GSA (ASME standard pump) and the GSI (ISO DIN standard pump). A GSL option is available for temperatures down to -100°C / -150°F.

The GSA / (ASME) and GSI (ISO) product covers a hydraulic range that is split between three frame sizes, Frames 0, I, & II. The pumps are offered with a range of Synchronous Magnet Drives rated to match prime mover performance, hence specifications of all denominations can be catered for.

This range is based on sizes conforming to ANSI & ISO performance and dimensional standards.

The standard materials of construction are Stainless Steel with silicon carbide internal bearings.

Performance of the GSA/GSI frame 0



Pump model

	GSA	GSI		
1	1.5 x 1 x 5	50-32-125	4	1.
2	3 x 1.5 x 5	65-50-125	5	3
3	3 v 2 v 5	80-65-125		

4 1.5 x 1 x 6H 50-32-16	
	0H
5 3 x 1.5 x 6H 65-50-16	0H

Design range limits

The GSA/GSI pump is designed to operate from -40°C up to +260°C, -40°C 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 150 microns.

Options

Materials of construction

Wetted parts Alloy 20, Alloy C, Alloy B
Internal bearings SiC / Carbon
Gaskets PTFE

Other options

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



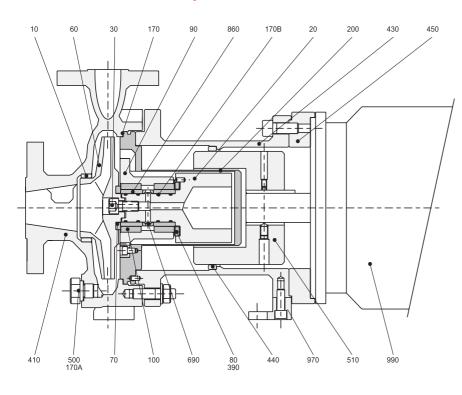
Key Design Features

- 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 GSA/GSI pump range

- Sealless design for total product containment.
- Ideal for hydrocarbon, toxic, aggressive, hot and valuable product.
- Conforms to ASME and ISO standards.
- Modular high efficiency wet ends.
- Designed to ensure maximum flow/head coverage across all ranges.
- Choice of various metallic materials of construction.
- One fully confined casing / containment shroud / shell joint.

Construction of GSA/GSI frame 0



10	Front Neck Ring	Stainless Steel
20	Pump Shaft/IMR	Stainless Steel
30	Impeller Fixing	Stainless Steel
60	Impeller	Stainless Steel
70	Front Thrust Washer	Alpha SiC
80	Back Thrust Washer	Alpha SiC
90	Bush Holder	Stainless Steel
100	Bush	Alpha SiC
170	Gasket (Casing)	CSF / PTFE
170A	Gasket (Drain)C	CSF / PTFE
170B	'O' Ring	Viton A / PFR
200	Containment Shroud/Shell	Stainless Steel/C276
390	Support Gasket	Exfoliated Graphite & SS
410	Casing	Stainless Steel
430	Coupling Housing	SG Iron
440	Bump Ring	Phosphor Bronze
450	Motor Adaptor	Carbon Steel
500	Drain Plug	Stainless Steel
510	Outer Magnet Ring	Carbon Steel
690	Shaft Sleeve Spacer	Stainless Steel
860	Shaft Sleeve	Alpha SiC
970	Coupling Housing Foot	SG Iron
990	Electric Motor	Proprietary

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 1.5 mm (0.06") high raised face having a continuous

spiral groove.

BS 4504 PN16 + PN40 Machined with 1.5mm (0.06") high raised face having a continuous spiral $\frac{1}{2}$

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: 3/8" BSP drain plug fitted with fully trapped

gaskets.

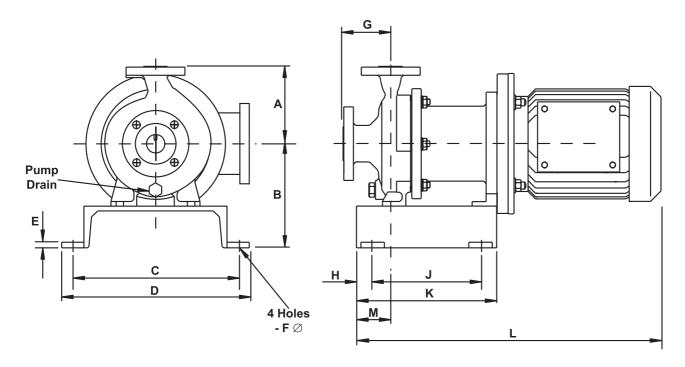
Option1: No drain, boss left undrilled.

Option 2: 1/2'' NPT plug.

Option 3: 1/2'' flange rated to the casing flanges.

Gauge Connections:

Connection of pressure gauges at the suction and discharge branches is possible. The connections are not drilled.



GSA frame 0

Pump size	Α	В	С	D	E	F	G	Н	J	K	M	Motor Fram	e L
1.5x1x5	165/6.5"	222.5/8.75"	350/13.8"	400/15.75"	12/0.5"	14/0.55"	101.6/4"	34.5/1.4"	230/9"	306/12"	73/2.9"	80-90	631/25"
3x1.5x5	165/6.5"	222.5/8.75"	350/13.8"	400/15.75"	12/0.5"	14/0.55"	101.6/4"	34.5/1.4"	230/9"	306/12"	73/2.9"	100-112	696/27.5"
3x2x5	165/6.5"	222.5/8.75"	350/13.8"	400/15.75"	12/0.5"	14/0.55"	101.6/4"	34.5/1.4"	230/9"	306/12"	73/2.9"	132	784/31"
1.5x1x6H	165/6.5"	222.5/8.75"	350/13.8"	400/15.75"	12/0.5"	14/0.55"	101.6/4"	34.5/1.4"	230/9"	306/12"	73/2.9"	160	930/36.5"
3x1.5x6H	165/6.5"	222.5/8.75"	350/13.8"	400/15.75"	12/0.5"	14/0.55"	101.6/4"	34.5/1.4"	230/9"	306/12"	73/2.9"	143-145	630/25"
												182-184	679/26.7"
												213-215	783/31"
												254-256	921/36"

GSI frame 0

Pump size	Α	В	С	D	Е	F	G	Н	J	K	М	Motor Frame	L
50-32-125	140/5.5"	221/8.7"	350/13.8"	400/15.75"	12/0.5"	14/0.55"	80.31"	34.5/1.4"	230/9"	306/12"	73/2.9"	80-90	529/20.8"
65-50-125	140/5.5"	221/8.7"	350/13.8"	400/15.75"	12/0.5"	14/0.55"	80/3.1"	34.5/1.4"	230/9"	306/12"	73/2.9"	100-112	594/23.4"
80-65-125	140/5.5"	221/8.7"	350/13.8"	400/15.75"	12/0.5"	14/0.55"	100/3.9"	34.5/1.4"	230/9"	306/12"	73/2.9"	132	681/26.8"
50-32-160H	160/6.3"	221/8.7"	350/13.8"	400/15.75"	12/0.5"	14/0.55"	80/3.1"	34.5/1.4"	230/9"	306/12"	73/2.9"	160	827/32.5"
65-50-160H	160/6.3"	221/8.7"	350/13.8"	400/15.75"	12/0.5"	14/0.55"	80/3.1"	34.5/1.4"	230/9"	306/12"	73/2.9"		

Dimensions shown are metric / imperial (inches).

Range capabilities

Model	Head	Flow	Temperature	Pressure	Viscosity Cst	Mounting
GSA 0	41 m 134 ft	60 m³/h 264 usgpm	-40 to +260°C -40 to +500°F	18.9 bar 275 psi	200	Separate Mounted (SM)
GSI 0	41 m 134 ft	60 m³/h 264 usgpm	-40 to +260°C -40 to +500°F	16 bar 232 psi	200	Separate Mounted (SM)



COMPRESSORS

PUMPS

GENUINE PARTS

SERVICE

Pressure Limits

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

Flange standard	Design pressure	е	
	316 St St	Alloy 20	Alloy C
ANSI B16.5	1.89 N/mm ²	1.59 N/mm ²	2.00 N/mm ²
Class 150 + 300	275 psi	230 psi	290 psi
BS 4504	1.60 N/mm ²	1.52 N/mm²	1.60 N/mm ²
PN16 + PN40	232 psi	220 psi	232 psi
DIN 2543/2545	1.60 N/mm ²	1.52 N/mm ²	1.60 N/mm ²
PN16 + PN40	232 psi	220 psi	232 psi

Component	Hydrostatic tes	Hydrostatic test values						
	316 St St	Alloy 20	Alloy C					
Casing (ANSI 150 + 300lb)	2.93 N/mm²	2.41 N/mm ²	3.10 N/mm ²					
	425 psi	350 psi	450 psi					
Casing (PN16 + PN40)	2.40 N/mm ²	2.30 N/mm ²	2.40 N/mm ²					
	348 psi	325 psi	348 psi					
Containment Shroud /Shell	2.93 N/mm ²	2.41 N/mm ²	3.10 N/mm ²					
	425 psi	350 psi	450 psi					

Temperature limits

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

Sundyne Headquarters: Sundyne, LLC 14845 West 64th Avenue Arvada, Colorado 80007 USA

1-866-Sundyne Phone: 1.303.425.0800 Fax: 1.303.425.0896 www.sundyne.com

Sundyne China: Building 1, No. 879 Shen Fu Road XinZhuang Industrial Zone Min Hang District Shanghai, China 201108 Phone: +8621 5055 5005 Fax: +8621 5442 5265

Sundyne France:

Sundyne International S.A. 13-15, Boulevard Eiffel - B.P. 30 21604 Longvic Cedex France

Phone: +33 380 38 33 00 Fax: +33 380 38 33 66

Sundyne Spain: Sundyne Marelli Bombas, S.R.L. Ctra. Madrid-Toledo, Km.30.8

45200 Illescas Toledo, Spain

Phone: +34 925 53 45 00 Fax: +34 925 51 16 00

Sundyne United Kingdom:

Sundyne HMDKontro Sealless Pumps, Ltd. Marshall Road

Hampden Park Industrial Estate Eastbourne East Sussex, BN22 9AN United Kingdom

Phone: +44 1323 452000 Fax: +44 1323 503369 Email: info@hmdkontro.com

Worldwide Sales Headquarters

Unit 2 Harvington Business Park Hampden Park Industrial Estate Brampton Road Eastbourne East Sussex, BN22 9BN

United Kingdom

Phone: +44(0) 1323 452125

To locate the global representative, distributor or authorized service center nearest you, or for additional information please visit www.sundyne.com

GLOBAL STRENGTH, powered by people

All information provided is subject to change without notice. © 2013 Sundyne, LLC All Rights Reserved. Other logos and trade names are property of their respective owners.

HMD Kontro GSA/GSI F0 1.0 5/12 A4 Eng.