

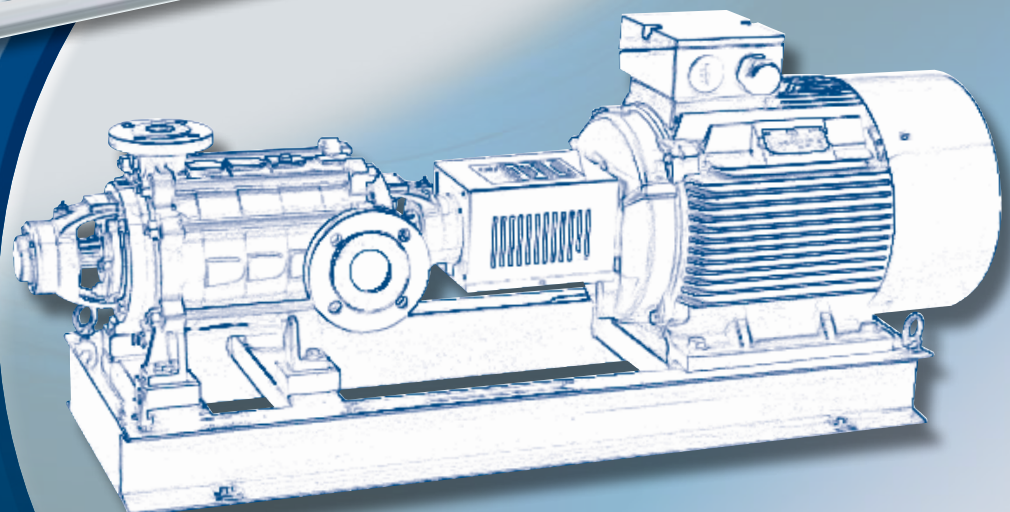


GARBARINO

PUMPS SINCE 1932

G/GH

Multistage high pressure pumps





G

MULTISTAGE CENTRIFUGAL PUMPS

APPLICATIONS

G series multistage centrifugal pumps are designed for trouble-free pumping for clear or slightly dirty liquids and used in:

- Heating plants
- Waterworks and water supply plants
- Pressure raising plants
- Water and condensate circulation
- Fire fighting system
- Boiler feeding plants
- High pressure washing
- Reverse osmosis

CONSTRUCTION

The pumps are multistaged centrifugal with radial split casings. In all versions the supporting feet on pressure side are placed under the discharge body. For sizes up to 3" the base feet, on suction side, are placed under the first stage casing, to allow the rotation of the suction casing in any direction. For bigger sizes the base feet are placed under the suction body, the rotation of which is possible only upon request. The impellers are provided with balancing holes to reduce the axial thrust. The shaft is supported by grease or oil lubricated bearings.

MAXIMUM OPERATING TEMPERATURE

Standard version: up to 248°F

With cooling chamber: up to 320 °F

NOTE: for temperatures exceeding 320°F please contact our Technical Department.

MAXIMUM OPERATING PRESSURE

- On suction side: up to 362 PSI
- On discharge side: up to 928 PSI
- NOTE: for higher operating pressures, please contact our Technical Department

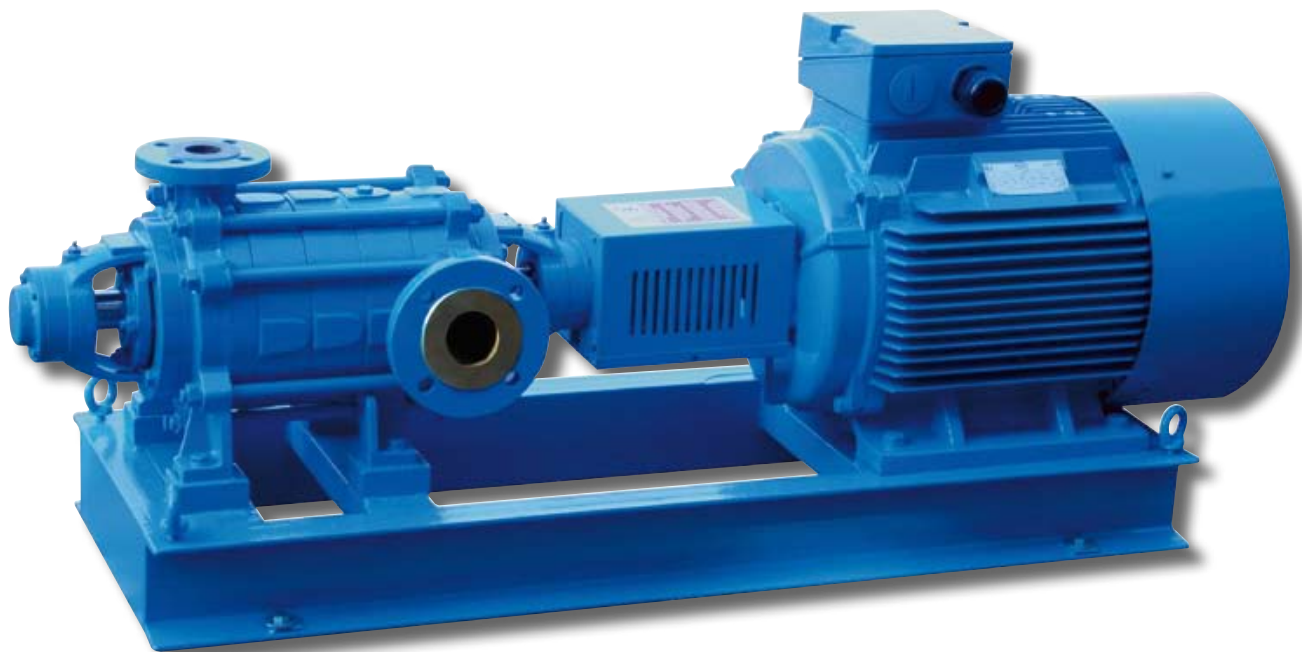
TECHNICAL FEATURES

- Capacity up to 3150 GPM
- Heads to 1312 feet
- Revolutions up to 3600 RPM
- Pressures to 928 PSI
- Flanges: suction side: ANSI B16.1 CL125, ANSI B16.5 CL150
- discharge side: ANSI B16.1 CL 250, ANSI B16.5 CL 300, ANSI B16.5 CL 400 (option)

VERTICAL MULTISTAGE CENTRIFUGAL PUMPS

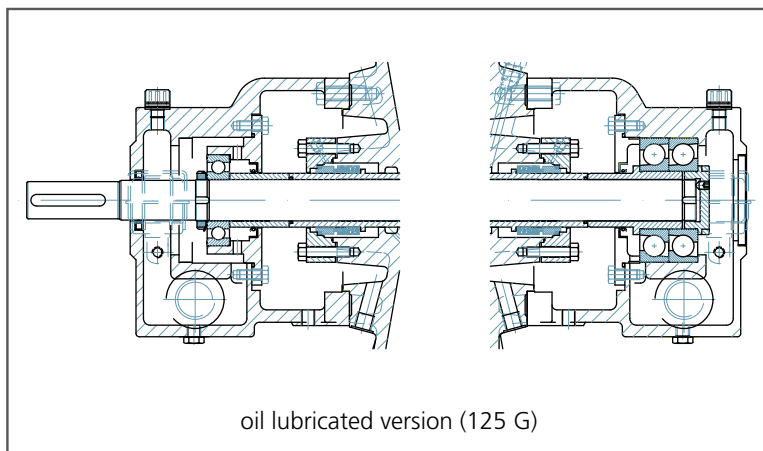
"GV" SERIES

Vertical multistage centrifugal pumps "GV" series, standard configuration, with upper ball bearings support and lower bushing support. Besides the usual applications where high pressure is required, the vertical configuration is largely used in the marine field. For sizes not shown in tables please contact our Technical Department.



MATERIALS	MAX. WORKING PRESSURE
CAST IRON	580 PSI
STAINLESS STEEL, BRONZE, SPECIAL ALLOY	925 PSI
<i>NOTE: SPECIAL EXECUTIONS EXCEEDING THE ABOVE LIMITS AVAILABLE ON REQUEST</i>	

MODELS	10
INTERCHANGEABILITY	
CASINGS	10
IMPELLERS	12
SHAFTS	10
BEARING BRACKETS	6
MECHANICAL SEALS	6





GH

MULTISTAGE HIGH PRESSURE CENTRIFUGAL PUMPS

Garbarino's multistage pump family has been widely tested over the years in applications with pressures up to 580 PSI. Now, with the newly developed GH pumps, we can achieve pressures to 1100 PSI and capacities to 2200 GPM.

APPLICATIONS

These pumps are suitable for applications mainly in power and desalination plants, for boiler feeding and reverse osmosis respectively. Moreover they can be used in other fields such as snowmaking equipment, marine and off-shore industries for water mist fire fighting services and others.

CONSTRUCTION

The GH design is the newest in the industry, we have used an entirely new approach to hydraulics and mechanics for high pressure pumps. The range of GH pumps includes 4 sizes (2, 3, 4 and 6 inch) with 8 different hydraulic systems to insure that every client demand can be met. The pumps are multistage, horizontal pumps radially split with impellers assembled between external bearings.

The main features are:

- feet cast with suction unit and delivery for greater rigidity and strength
- ANSI flanges are standard with all metric options available
- suction flange rotating to three positions
- high efficiency enclosed type impellers with low NPSH suction impeller
- replaceable wear rings
- oil-sealed external bearings with constant level oiler
- drum-type balancing device for axial thrust
- oversized shaft to reduce deflection.

MAXIMUM OPERATING TEMPERATURE

Standard version: up to 248°F

With cooling chamber: up to 320 °F

NOTE: for temperatures exceeding 320°F please contact our Technical Department.

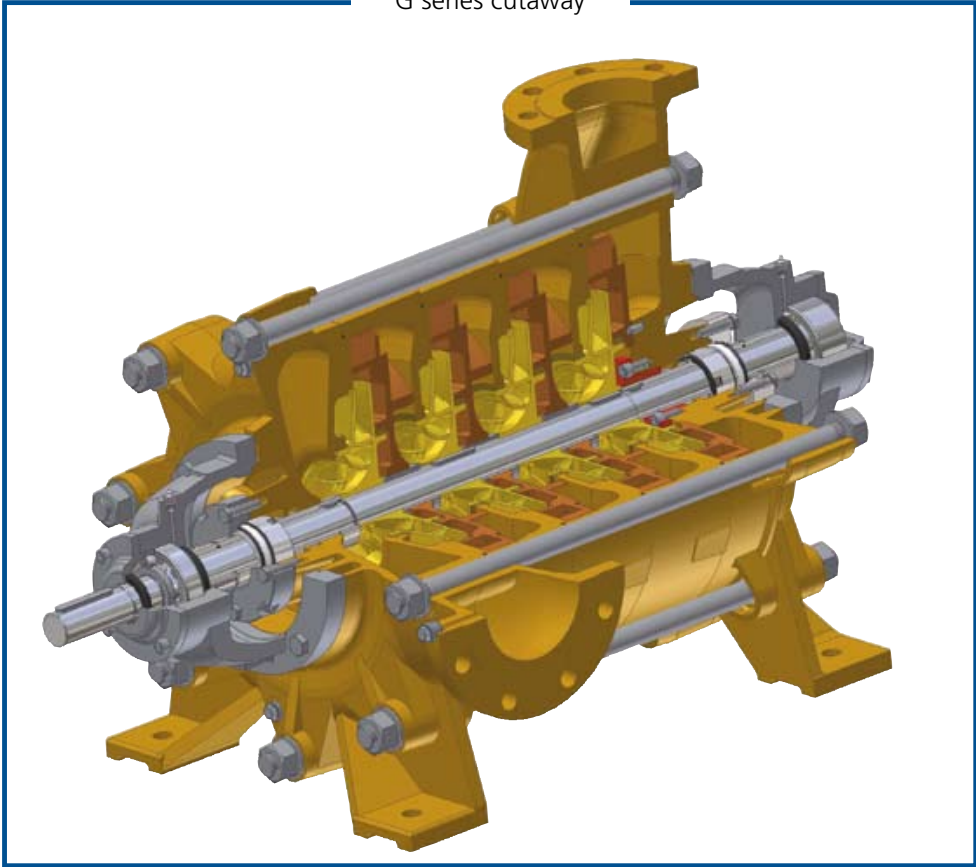
TECHNICAL FEATURES

- Maximum capacity 2200 GPM
- Maximum head 1100 PSI
- Maximum speed 3600 RPM, lowest critical speed over 5000 RPM
- Single or double mechanical seal (balanced type)
- Optional seal cooling

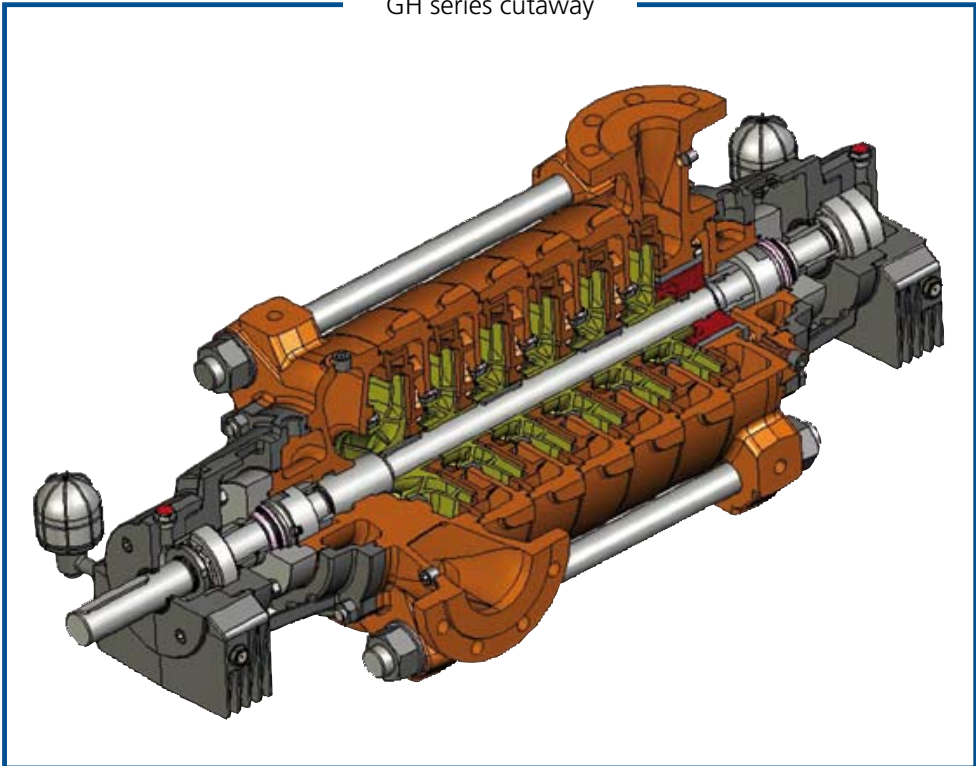
GH pumps can be supplied in a range of materials to offer custom compatibility with pumped liquid, another appealing feature of the pumps. The base version has a nodular cast iron body (GS 600) and G25 cast iron impellers, but special stainless steel pumps are available, such as AISI 316, Duplex, Superduplex, Hastelloy B and C, Monel, Alloy 20 and others.

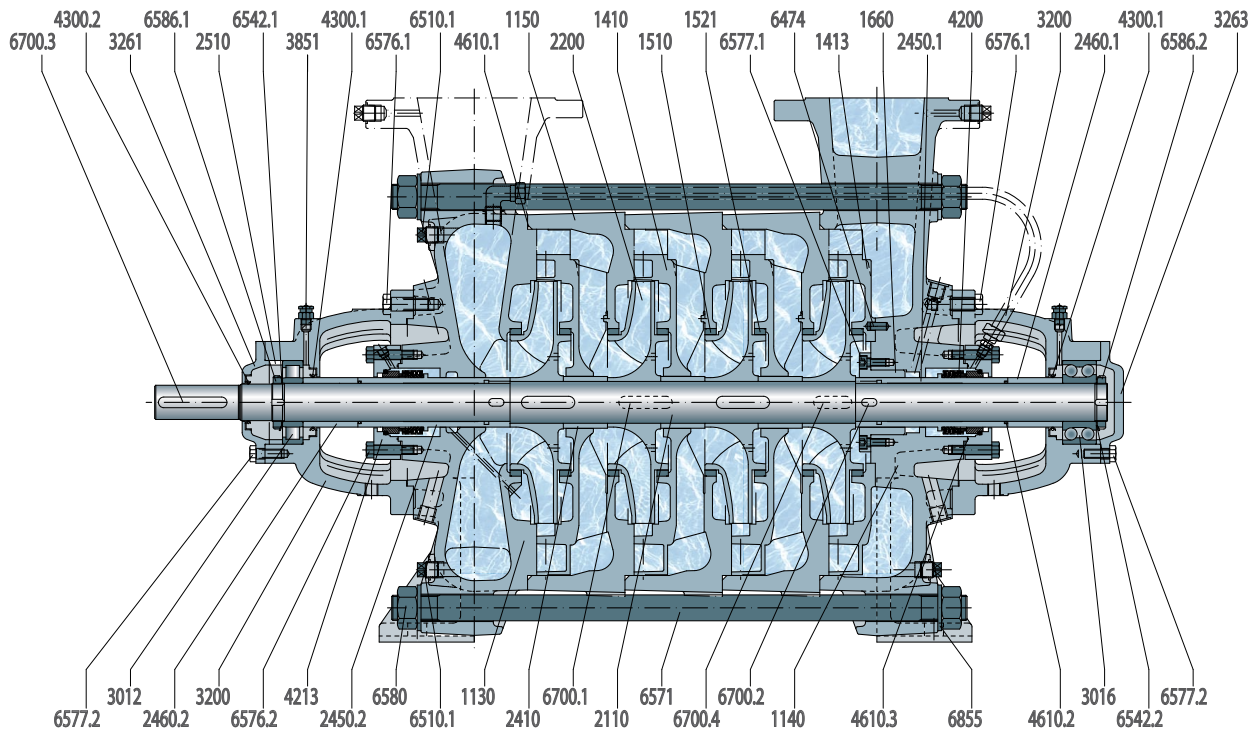


G series cutaway

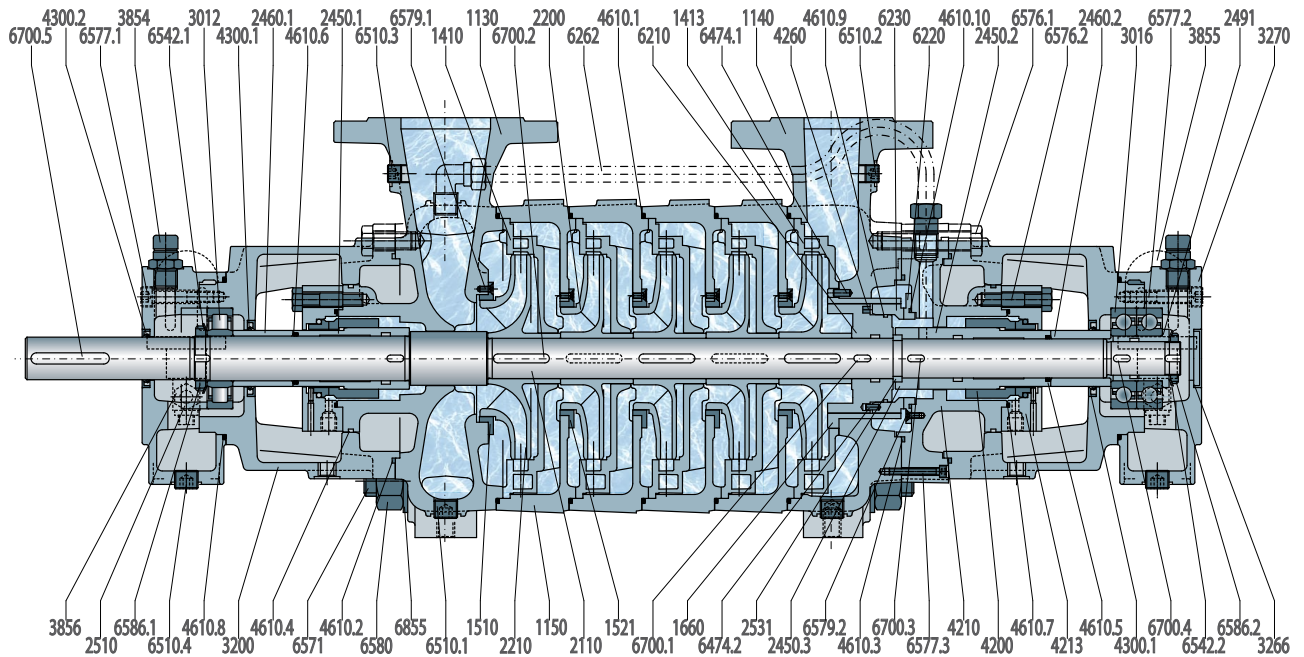


GH series cutaway





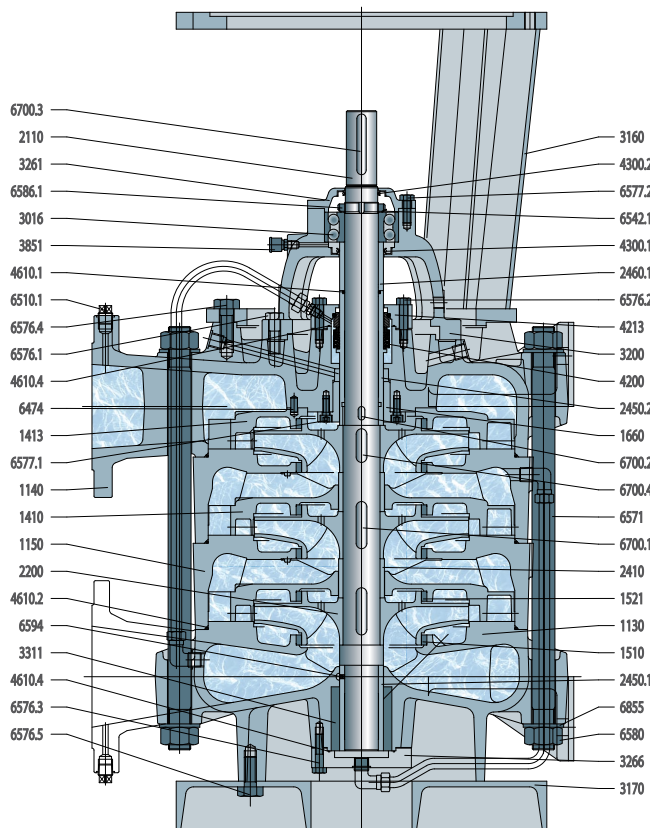
G SERIES GREASE LUBRICATED PARTS CROSS-SECTION



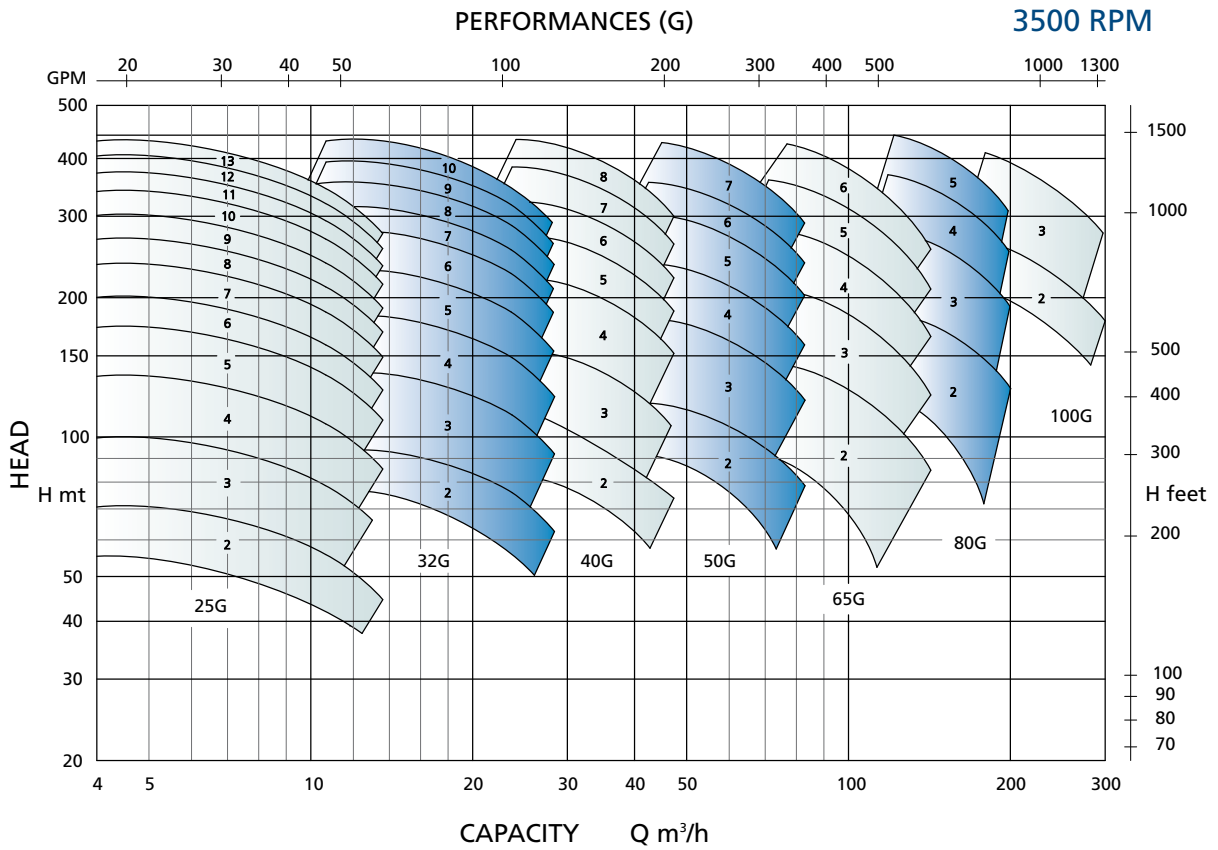
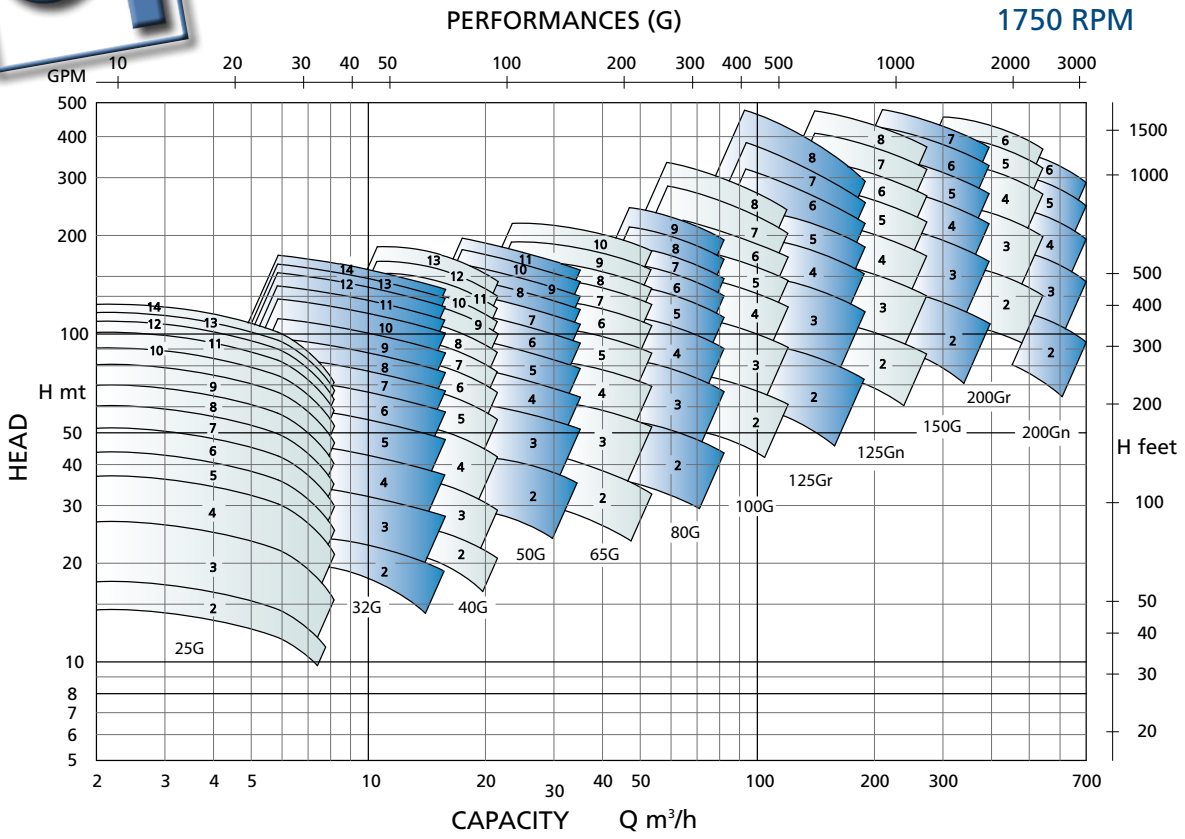
GH SERIES PARTS CROSS-SECTION

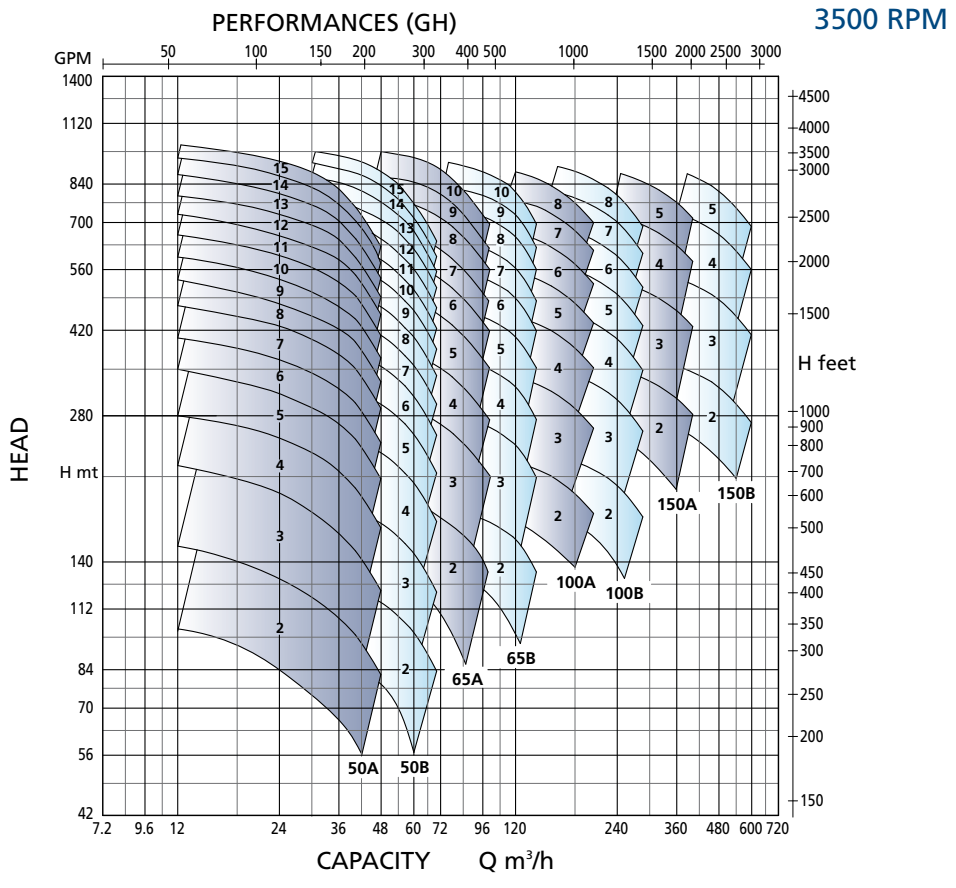
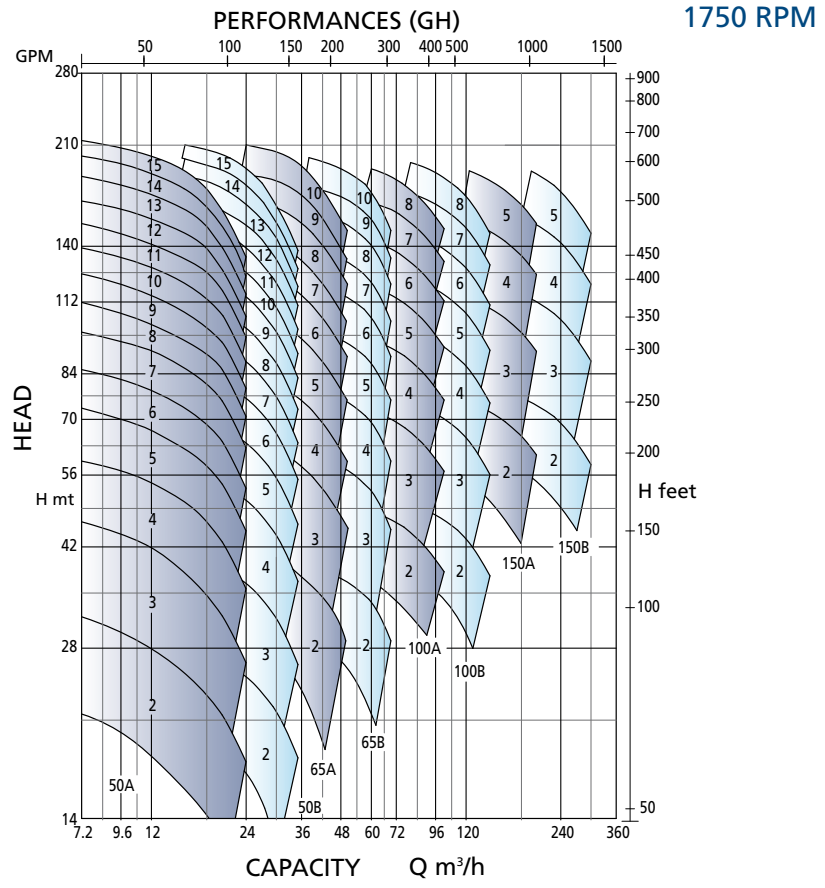
Pos	Description
1130	Suction casing
1140	Discharge casing
1150	Stage casing
1410	Diffuser
1413	Diffuser, last stage
1510	Casing wear ring
1521	Wear ring
1660	Delivery casing bush
2110	Pump shaft
2200	Impeller
2210	Impeller suction stage
2410	Interstage sleeve
2450.1	Shaft sleeve
2450.2	Shaft sleeve
2450.3	Shaft sleeve
2460.1	Spacer sleeve
2460.2	Spacer sleeve
2491	Locating bearing collar
2510	Spacer ring
2531	Retaining ring
3012	Roller bearing
3016	Ball bearing

Pos	Description
3160	Motor stool
3170	Pump stool
3200	Bearing housing
3261	Bearing cover
3263	Bearing cover
3266	Bearing end cover
3270	Oil lubrication cover
3311	Bearing bush
3851	Grease cup
3854	Oil filler plug
3855	Constant level oiler
3856	Oil level
4200	Mechanical seal
4210	Seal housing
4213	Mechanical seal cover
4260	Spring
4300.1	Radial shaft seal
4300.2	Radial shaft seal
4610.1	O-ring
4610.2	O-ring
4610.3	O-ring
4610.4	O-ring
4610.5	O-ring
4610.6	O-ring
4610.7	O-ring
4610.8	O-ring
4610.9	O-ring
4610.10	O-ring
6210	Balance drum
6220	Static ring
6230	Rotating ring
6262	Balance piping
6474._	Cylindrical setting pin
6510.1	Screw plug
6510.2	Screw plug
6510.3	Screw plug
6510.4	Screw plug
6542.1	Lockwasher
6542.2	Lockwasher
6571	Housing tie bolt
6576._	Screw
6577._	Screw
6579._	Screw
6580	Nut
6586.1	Locknut
6586.2	Locknut
6594	Set screw
6700._	Key
6855	Plain washer



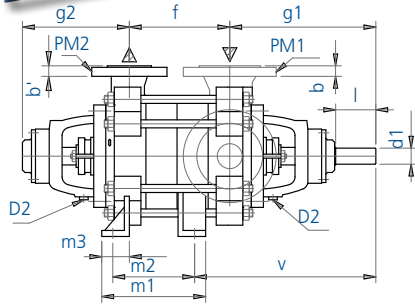
VERTICAL VERSION (GV)



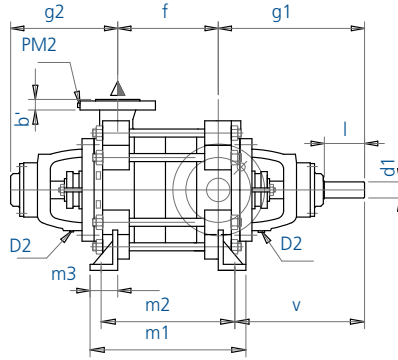




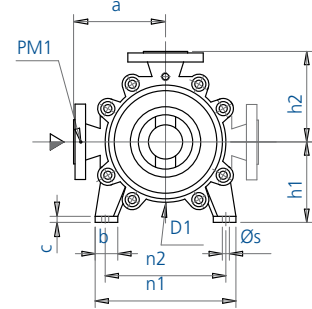
OVERALL DIMENSIONS (G)



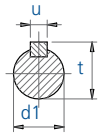
pump type 25 G ÷ 65 G



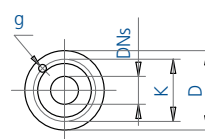
pump type 80 G ÷ 200 G



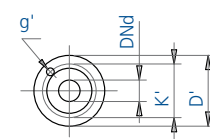
PUMP SHAFT SECTION



SUCTION FLANGE



DISCHARGE FLANGE



KEY ACCORDING TO UNI 6604

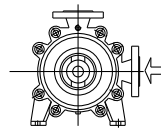
PUMP DIMENSIONS (inches)															WEIGHT (lbs)	PUMP TYPE	SUCTION FLANGE	DELIVERY FLANGE	FLANGES DRILLED ACCORDING TO ANSI B16.1 - B16.5						BEARING BRACKET DRAIN	CASING PUMP DRAIN	VACUUM GAUGE	PRESSURE GAUGE						
a	g1	h1	h2	g2	b	c	m3	n1	n2	s	v	d1	l	t					u	2 stages pump	+1 stage	DN _s 150	DN _d 300	D					D'	b	b'	K	K1	g
6.30	10.79	5.20	6.30	8.19	1.77	0.55	2.17	9.84	8.46	0.59	12.60	1.10	2.36	1.22	0.31	154	26	25 G	1 1/2"	1 1/4"	6.14	5.5	0.81	0.75	3.88	3.88	0.62	0.75	4	4	3/8"G	1/4"G	1/4"G	1/4"G
7.09	10.55	6.30	7.09	8.11	1.77	0.55	2.17	11.02	9.65	0.59	12.80	1.10	2.36	1.22	0.31	187	35	32 G	2"	1 1/4"	6.5	5.5	0.71	0.75	4.75	3.88	0.75	0.75	4	4	3/8"G	1/4"G	1/4"G	1/4"G
7.09	11.46	6.30	7.09	8.39	1.77	0.55	2.17	11.02	9.65	0.59	14.21	1.26	3.15	1.39	0.39	220	40	40 G	2 1/2"	1 1/2"	7.28	5.9	0.71	0.8	5.5	4.5	0.75	0.88	4	4	3/8"G	1/4"G	1/4"G	1/4"G
7.87	11.69	6.30	7.87	8.62	1.77	0.55	2.17	11.02	9.65	0.59	14.88	1.26	3.15	1.39	0.39	276	49	50 G	3"	2"	7.87	6.5	0.79	0.71	6	5	0.75	0.75	4	8	3/8"G	1/4"G	1/4"G	1/4"G
9.45	12.20	7.09	9.45	8.90	2.36	0.63	2.56	12.60	11.02	0.59	14.96	1.26	3.15	1.39	0.39	342	64	65 G	4"	2 1/2"	9	7.28	0.94	0.71	7.5	5.88	0.75	0.88	8	8	3/8"G	1/4"G	1/4"G	1/4"G
9.45	12.20	7.09	9.45	8.90	2.36	0.63	2.56	12.60	11.02	0.59	10.63	1.26	3.15	1.39	0.39	287	66	80 G	4"	3"	9	7.87	0.94	0.79	7.5	6.62	0.75	0.88	8	8	3/8"G	1/4"G	1/4"G	1/4"G
12.01	14.21	8.46	12.01	9.96	3.15	0.87	3.15	16.73	13.78	0.87	12.24	1.57	4.33	1.70	0.47	441	99	100 G	5"	4"	10	9.25	0.94	0.84	8.5	7.88	0.88	0.88	8	8	3/8"G	3/8"G	3/8"G	3/8"G
15.75	16.54	12.40	15.75	12.76	4.13	0.98	4.92	22.05	17.91	0.98	13.58	1.77	4.33	1.92	0.55	1,135	231	125 G	6"	5"	11.22	11	1	0.94	9.5	9.25	0.88	0.88	8	8	3/8"G	1/2"G	1/2"G	1/2"G
17.72	19.29	14.76	17.72	15.24	5.51	1.18	5.91	27.56	22.05	1.30	15.55	1.97	4.33	2.14	0.63	1,764	342	150 G	8"	6"	13.5	12.5	1.13	1	11.75	10.62	0.88	0.88	8	12	3/8"G	3/8"G	3/8"G	3/8"G
19.69	22.83	16.34	19.69	17.09	5.91	1.38	6.50	29.53	24.41	1.54	18.90	2.36	5.51	2.54	0.71	220	441	200 G	10"	8"	15.98	16.33	1.26	1.13	14.25	13	1	1	12	12	3/8"G	3/8"G	3/8"G	3/8"G

NUMBER OF STAGES	PUMP TYPE																															
	25 G			32 G			40 G			50 G			65 G			80 G			100 G			125 G			150 G			200 G				
	f	m1	m2	f	m1	m2	f	m1	m2	f	m1	m2	f	m1	m2	f	m1	m2	f	m1	m2	f	m1	m2	f	m1	m2	f	m1	m2		
2	4.37	5.59	3.86	4.80	5.59	3.86	5.43	5.71	3.98	6.18	6.02	4.29	6.77	7.52	5.55	6.77	11.89	9.92	8.70	15.00	12.64	10.75	20.59	16.65	12.99	24.80	20.47	16.54	29.13	24.02		
3	6.61	7.83	6.10	7.05	7.83	6.10	7.87	8.15	6.42	8.74	8.58	6.85	9.92	10.67	8.70	9.92	15.04	13.07	12.44	18.74	16.38	15.79	25.63	21.69	18.50	30.31	25.98	23.23	35.43	30.31		
4	8.86	10.08	8.35	9.29	10.08	8.35	10.31	10.59	8.86	11.30	11.14	9.41	13.07	13.82	11.85	13.07	18.19	16.22	16.18	22.48	20.12	20.83	30.67	26.73	24.02	35.83	31.50	29.92	41.73	36.61		
5	11.10	12.32	10.59	11.54	12.32	10.59	12.76	13.03	11.30	13.86	13.70	11.97	16.22	16.97	15.00	16.22	21.34	19.37	19.92	26.22	23.86	25.87	35.71	31.77	29.53	41.34	37.01	36.61	48.03	42.91		
6	13.35	14.57	12.83	13.78	14.57	12.83	15.20	15.47	13.74	16.42	16.26	14.53	19.37	20.12	18.15	19.37	24.49	22.52	23.66	30.75	28.39	30.91	40.75	36.81	35.04	46.85	42.52	43.31	54.33	49.21		
7	15.59	16.81	15.08	16.02	16.81	15.08	17.64	17.91	16.18	18.98	18.82	17.09	22.52	23.27	21.30	22.52	27.64	25.67	27.40	33.70	31.34	35.94	45.79	41.85	40.55	52.36	48.03					
8	17.83	19.06	17.32	18.27	19.06	17.32	20.08	20.35	18.62	21.54	21.38	19.65	25.67	26.42	24.45	25.67	30.79	28.82	31.14	37.44	35.08	40.98	50.83	46.89								
9	20.08	21.30	19.57	20.51	21.30	19.57	22.52	22.80	21.06	24.09	23.94	22.20	28.82	29.57	27.60	28.82	33.94	31.97														
10	22.32	23.54	21.81	22.76	23.54	21.81	24.96	25.24	23.50	26.65	26.50	24.76	31.97	32.72	30.75																	
11	24.57	25.79	24.06	25.00	25.79	24.06	27.40	27.68	25.94	29.21	29.06	27.32																				
12	26.81	28.03	26.30	27.24	28.03	26.30	29.84	30.12	28.39																							
13	29.06	30.28	28.54	29.49	30.28	28.54	32.28	32.56	30.83																							
14	31.30	32.52	30.79	31.73	32.52	30.79																										
15	33.54	34.37	32.64																													

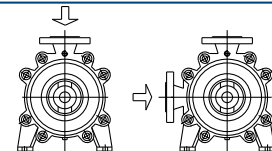
SUCTION FLANGE POSITION

DRIVE END VIEW

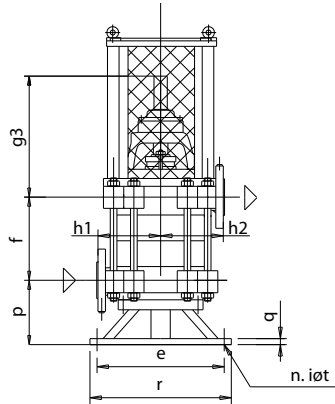
STANDARD



ON REQUEST

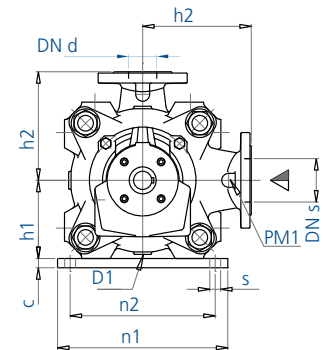
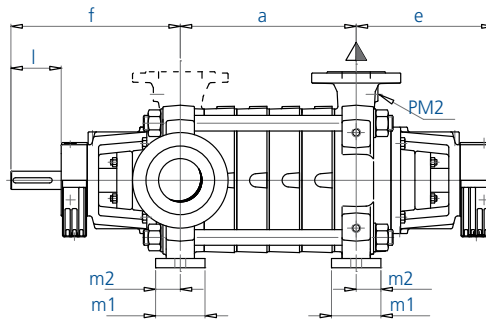
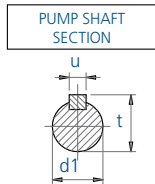


OVERALL DIMENSIONS (GV)



PUMP DIMENSIONS							
PUMP TYPE	g3	p	r	e	i	t	q
25 GV	10.63	6.54	13.78	11.81	0.16	0.71	0.94
32 GV	10.55	6.30	13.78	11.81	0.16	0.71	0.94
40 GV	11.61	6.81	15.75	13.78	0.16	0.71	0.94
50 GV	11.85	7.05	15.75	13.78	0.16	0.71	0.94
65 GV	12.13	7.56	19.69	16.93	0.16	0.71	0.94
80 GV	12.13	7.56	15.75	13.78	0.16	0.71	0.94
100 GV	14.37	8.27	19.69	16.93	0.31	0.71	1.18
125 GV	17.28	9.45	21.65X21.65	17.72X17.72	0.16	0.71	3.35
200 GV	23.23	12.60	27.56X27.56	23.62X23.62	0.16	0.87	3.15+0.39

OVERALL DIMENSIONS (GH)



SUCTION FLANGE:

ANSI B16.1 CL125, ANSI B16.5 CL150

DISCHARGE FLANGE:

ANSI B16.1 CL 250, ANSI B16.5 CL 300

ANSI B16.5 CL 600 (option)

SUCTION AND DELIVERY FLANGES VIEW



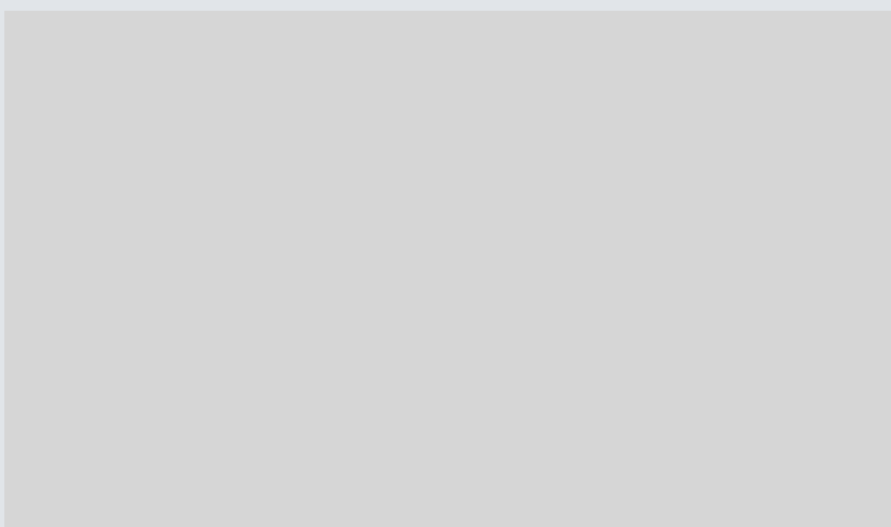
PUMP TYPE	DNs	DNd	N° STAGES	a	e	f	h1	h2	c	m1	m2	n1	n2	s	d1	l	t	u	d1	PM1	PM2	WEIGHT (lbs)
50	3.15	1.97	2	5.91	11.85	14.80	6.30	8.46	0.98	3.15	1.57	13.98	12.40	0.87 Ø	1.50	3.15	1.61	0.39	1/2"	3/8"	3/8"	243
			3	8.46																		273
			4	11.02																		304
			5	13.58																		335
			6	16.14																		366
			7	18.70																		397
			8	21.26																		428
			9	23.82																		459
			10	26.38																		489
			11	28.94																		520
			12	31.50																		551
			13	34.06																		582
			14	36.61																		613
			15	39.17																		644
			16	41.73																		675
			17	44.29																		705
			65	3.94																		2.56
3	10.04	419																				
4	12.99	463																				
5	15.94	507																				
6	18.90	551																				
7	21.85	595																				
8	24.80	639																				
9	27.76	683																				
10	30.71	728																				
11	33.66	772																				
12	36.61	816																				
100	5.91	3.94			2	9.13	14.06	17.91	8.86	11.81	1.18	4.72	2.36	19.69	16.54	0.94 Ø	1.89	4.33	20.28	0.55	3/4"	
			3	12.76	500																	
			4	16.38	571																	
			5	20.00	642																	
			6	23.62	712																	
			7	27.24	783																	
			8	30.87	853																	
			9	34.49	924																	
			150	7.87	5.91	2																12.01
3	16.54	710																				
4	21.06	825																				
5	25.59	939																				
6	30.12	1,054																				



ISO 9001
Certification No. 38329



ATEX on request



POMPE GARBARINO S.p.A.

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