

## HEGA 2502 ... 6510

### TECHNICAL DATA

Capacity	: Max.	638 gpm	(145) m <sup>3</sup> /h
Head	: Max.	1279 ft	(390) m
Speed	: Max.	3600 r.p.m.	
Temperature	: Max.	380 °F	(194) °C
Casing pressure	: Max.	580 PSI	(40) bar
Shaft seal	: Stuffing box or mechanical seal		
Direction of rotation	: To the right (clockwise), looking at shaft end		



### APPLICATION

Series HEG multistage centrifugal pumps are used in applications where the requirement is for trouble-free pumping of clear or slightly dirty liquids. They are used in:

- Heating plants
- Waterworks and water supply plants
- Pressure raising plants
- Circulating water and condensate plants
- Fire extinguishing plants
- Purification plants
- Irrigation plants
- Boiler feed water plants
- Pressurized water producing stations

### DESCRIPTION AND DESIGN DETAILS

Horizontal multistage centrifugal pumps with sectional casing and closed impellers.

The manufacturing program covers five sizes, with 2 to maximum 13 stages, according to the size, the speed and the shaft seal. Axial thrust balancing is carried out by balancing the impellers separately. The remaining axial thrusts are taken up by adequately sized antifriction bearings.

The impellers, diffusers, as also the wear rings on size 65, are interchangeable between stages.

Arrangements combining impeller of differing diameter permit, within the application field, an optimum adaptation of the performance curve of the pump to the required performance characteristics.

On the suction side, the mounting feet are arranged on the casing of the first stage. By this means, it is possible to ensure easy adaptation to different installation conditions, even subsequent to initial installation, by pivoting the suction head casing. The driver is arranged on the suction side but discharge side driver or driver on both sides are possible on request.

All sizes can be supplied with one or more dummy stages upon request.

### Maximum casing pressure [PSI (bar)]:

Temperature range <sup>(1)</sup>	Suction	Discharge
14 to 248°F (-10 to 120 °C)	232 (16)	580 (40)
up to 140 °C	232 (16)	551 (38)
up to 194 °C	188.5 (13)	472.7 (32.6)

(1) Limitations due to type of shaft sealing used

ATTENTION: The maximum casing pressure is equal to suction pressure plus zero flow head.

### Flanges:

The suction side flange according to DIN 2533 PN16 and the discharge side to DIN 2535 PN40. The flanges can be drilled according to ANSI B16.1 class 250, on request.

### Flange positions:

Suction flange arranged horizontally towards the right hand side (looking at the shaft end) and discharge flange radially upwards. On request, the suction flange can be arranged on the left and, in the **case of pumps with three or more stages, vertically upwards.**

### Bearings:

One cylindrical roller bearing according to DIN 5412 and one deep-groove roller bearing to DIN 625, both lubricated by grease.

### Shaft sealing:

Sealing of the shaft can be carried out either by a stuffing box or mechanical seal as required.

- **Sealing Code 001:** Un-cooled stuffing box.  
Temperature range: 14 to 230°F (-10 to 110 °C.)
- **Sealing Code 022:** Externally flushed, un-cooled, lengthened stuffing box (only for sizes 40, 50 and 65).  
Temperature range: to 230°F (-10 to 110 °C.).
- **Sealing Code 511:** Cooled stuffing box.  
Temperature range: up to 284°F (140 °C) [refer factory for higher temperatures]
- **Mechanical Seal Code BK3/BKS/BKU:** Unbalanced single mechanical seal with rubber bellows, lubricated by pumpage.  
Temperature range: 14 to 230°F (-10 to 110 °C.) – [refer factory for higher temperatures when mechanical seal is required.]

## Materials of construction

Pos.	Pump parts	Materials of construction <sup>(1)</sup>						
		OB	OC	OD	OE	OR	OS	4B
10.6	Suction casing	0.6020						1.4410
10.7	Discharge casing							
10.8	Stage casing							
23.0	Impeller	0.6020	2.1060		1.4410	0.6020	2.1060	1.4021
17.1	Diffuser	0.6020		2.1060	0.6020	0.6020		
21.1	Shaft	1.7225			1.4021			
52.4	Shaft protection sleeve (stuffing box)	1.4301						
52.32	Shaft protection sleeve (mechanical seal)	1.4301						
46.1	Stuffing box	Synthetic fiber with PTFE impregnation						
43.3	Mechanical seal	AQ1EGG	[Carbon graphite / Silicon carbide / EPDM <sup>(2)</sup> ]					
		AQ1VGG	[Carbon graphite / Silicon carbide / FKM <sup>(2)</sup> (Viton)]					
		Q1Q1VGG	[Silicon carbide / Silicon carbide / FKM <sup>(2)</sup> (Viton)]					

(1) Material number according to German Standard - DIN.

(2) Abbreviation according to ISO 1629

## Equivalent materials

Name	German Standard - DIN		European Standard - EN	USA - Standard
	Material Nr.	Short name or Description		
Gray cast iron	0.6020	GG-20	EN-GJL-200	ASTM A48 class 30
Cast nickel tin bronze	2.1060	G-CuSn 12 Ni	EN-CC484K	UNS C91700
Cast Duplex stainless steel	1.4410	G-X10CrNiMo 18 9	EN-1.4410	ASTM A351 class CF12M
Alloyed high-strength steel	1.7225	42 CrMo 4	EN-1.7225	AISI 4140
Martensitic stainless steel	1.4021	X20Cr 13	EN-1.4021	AISI 420
Austenitic stainless steel	1.4301	X5CrNi 18 9	EN-1.4301	AISI 304

## Speed / Number of stages

Maximum speed and maximum number of stages according to shaft seal option.

Pump size	Maximum speed [r.p.m.]	Maximum number of stages for the shaft seal					
		001	022	511	BK3	BKS	BKU
2500	1 800	13	-	11	13	13	13
	3 000	11	-	9	13	13	13
	3 600	8	-	8	10	10	10
3200	1 800	12	-	10	12	12	12
	3 000	9	-	8	11	11	11
	3 600	6	-	6	7	7	7
4000	1 800	12	10	10	12	12	12
	3 000	8	8	8	9	9	9
	3 600	6	6	6	6	6	6
5000	1 800	11	9	9	11	11	11
	3 000	6	6	6	8	8	8
	3 600	4	4	4	5	5	5
6500	1 800	10	8	8	10	10	10
	3 000	5	5	5	6	6	6
	3 600	3	3	3	4	4	4