

## Close-coupled Chemical Pumps

sealless, with magnetic drive

### Automation products available:

- PumpExpert
- Hyamaster
- hyatronic

## Fields of Application

For handling aggressive, toxic, explosive, valuable, inflammable, malodorous or hazardous liquids in the chemical, petrochemical and general industries.

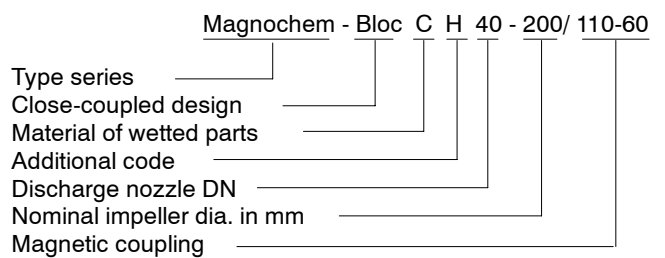
**Any CPK pump with shaft seal can be converted easily, taking into account the motor height. The casing and the impeller of the original pump can be used again!**

## Design

Volute casing pump in close-coupled design, fitted with a radial impeller, single-entry, single-stage, sealless, with magnetic drive. Hydraulic end and casing dimensions are identical with standardized chemical pump CPK to EN 22 858 / ISO 2858 / ISO 5199.

Installation: horizontal and vertical.

## Designation



Additional codes:

H = Heatable design

## Operating Data

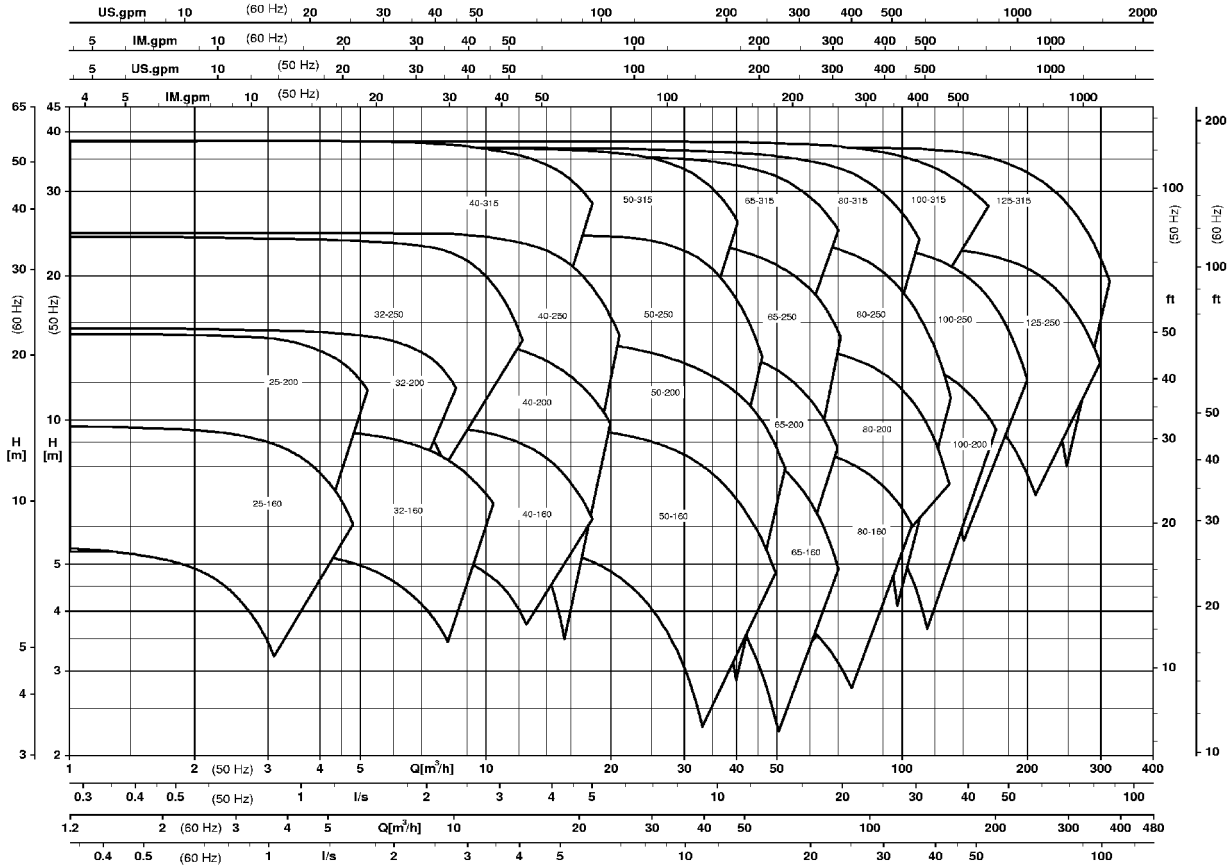
Capacities	Q	up to 240 m <sup>3</sup> /h (67 l/s)
Heads	H	up to 153 m
DN discharge nozzle	DN	from 25 to 125
Motor rating	P	from 1.1 to 22 kW

## Certification

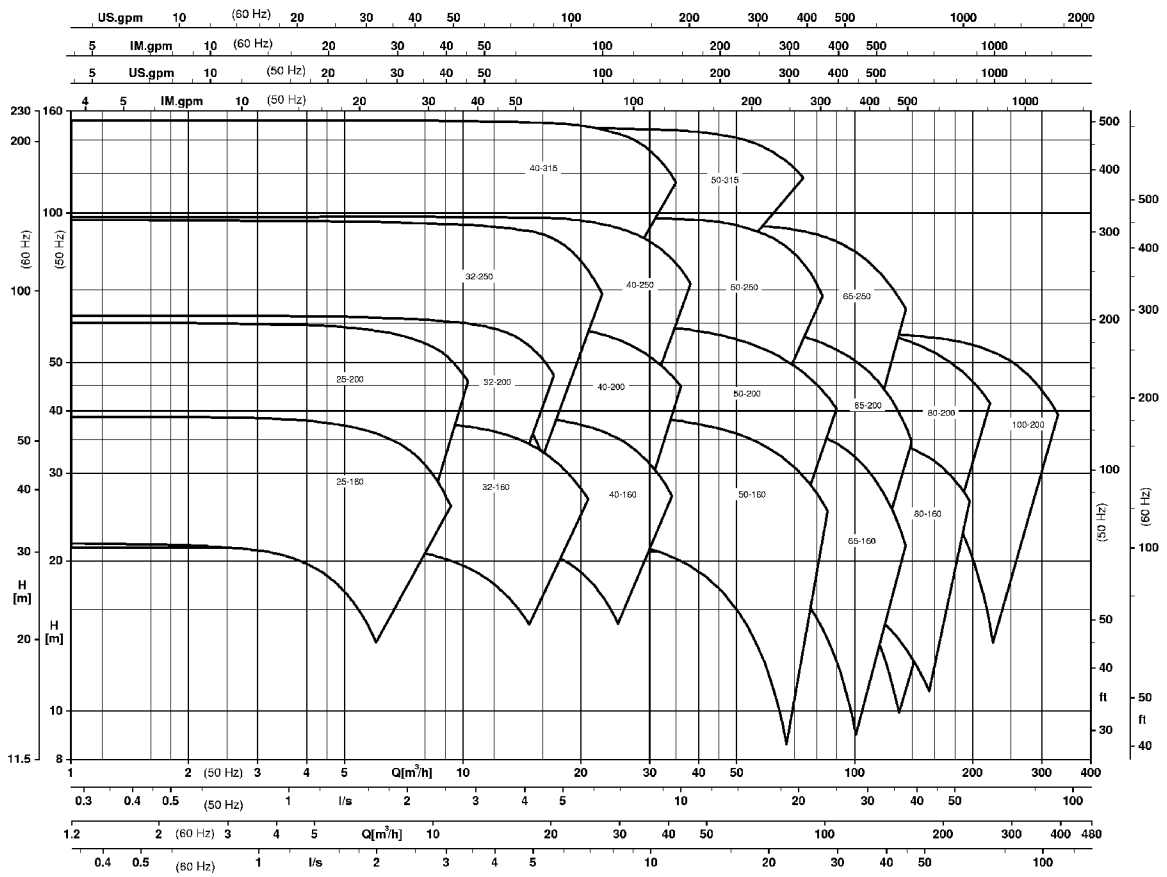
Certified quality management ISO 9001.

### Selection Charts

n = 1450/1750 1/min



n = 2900/3500 1/min



### Material Variants

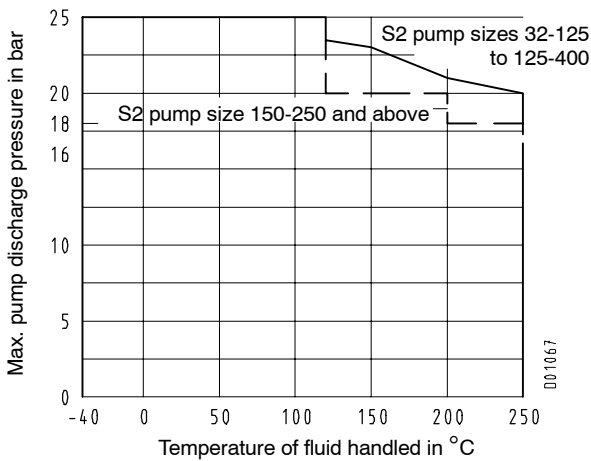
Part No.	Description	S2/S4	E	E4	C1/C1V <sup>4)</sup>	C3.1/C3.2
102	Volute casing	JS1025 <sup>6)</sup>	GP240GH+N	1.7706	1.4408	Noridur 1.4593
161	Casing cover	P250GH <sup>3)</sup>	P250GH <sup>3)</sup>	P250GH <sup>3)</sup>	1.4571/1.4408	1.4462
183	Support foot	S235JRG2	S235JRG2	S235JRG2	S235JRG2	S235JRG2
210.03	Shaft (Plain bearings)	1.4462	1.4462	1.4462	1.4462	1.4462
230	Impeller	JL1040 <sup>1)7)</sup>	JL1040 <sup>1)7)</sup>	JL1040 <sup>1)7)</sup>	1.4408	Noridur 1.4593
310	Plain bearing with spring	Sicadur <sup>® 9)</sup>	Sicadur <sup>® 9)</sup>	Sicadur <sup>® 9)</sup>	Sicadur <sup>® 9)</sup>	Sicadur <sup>® 9)</sup>
344	Bearing bracket lantern	1.4571	1.4571	1.4571	1.4571	1.4462
817	Bearing bracket lantern	JL1040 <sup>2)7)</sup>	JL1040 <sup>2)7)</sup>	JL1040 <sup>2)7)</sup>	JL1040 <sup>2)7)</sup>	JL1040 <sup>2)7)</sup>
817	Flange/ containment shroud/ containment shroud bottom	1.4571 <sup>8)/</sup> 2.4610/ 1.4462	1.4571 <sup>8)/</sup> 2.4610/ 1.4462	1.4571 <sup>8)/</sup> 2.4610/ 1.4462	1.4571/ 2.4610/ 1.4462	1.4462/ 2.4610/ 1.4462
818.01	Inner rotor	1.4571/1.4539	1.4571/1.4539	1.4571/1.4539	1.4571/1.4539	1.4462/1.4539
818.02	Outer rotor	St	St	St	St	St
920.95	Impeller nut	A4	A4	A4	A4	1.4462

- 1) impeller tip speed  $u > 48$  m/s and/or  $t < -30$  °C: 1.4408; bearing bracket P 04/05: always JS1025 impellers
- 2) steel version available
- 3)  $t < -10$  °C: 1.4571/1.4408
- 4) C1V = 1.4408 as per VDMA 24 276

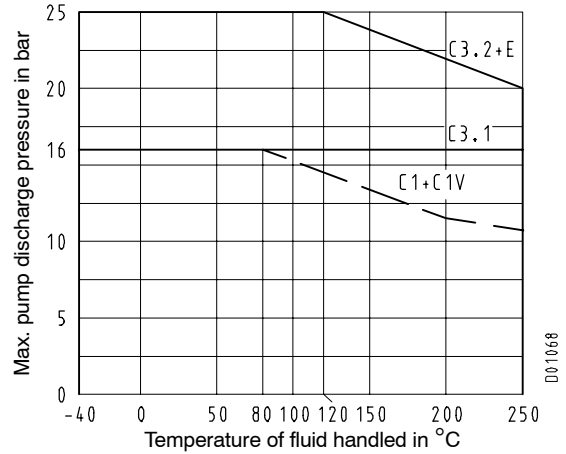
- 5) Sicadur<sup>®</sup> Supra coating (diamond coating of the SiC) optional
- 6) to EN 1563 = GJS-400-18-LT
- 7) to EN 1561 = GJL-250
- 8) magnetic coupling 165: 1.4462
- 9) Sicadur<sup>®</sup> = SiC<sup>5)</sup>/1.4462

### Pressure and Temperature Limits

Material variant S2



Material variants C1, C1V, C3.1/C3.2 and E



		Material variant: S4 Pump casing in JS1025 $\sigma_{0.2}$ values to EN 1563					Material variant: E4 Pump casing in 1.7706 $\sigma_{0.2}$ values to EN 10213-2			
Bearing bracket	Size	$P_{max}$ at 50 °C	$P_{max}$ at 120 °C	$P_{max}$ at 150 °C	$P_{max}$ at 200 °C	$P_{max}$ at 250 °C	$P_{max}$ at 20 °C	$P_{max}$ at 150 °C	$P_{max}$ at 200 °C	$P_{max}$ at 250 °C
P02	32-160	-	-	-	-	-	40.0	40.0	40.0	40.0
	32-200	-	-	-	-	-	40.0	38.5	37.4	36.5
	40-160	40.0	40.0	40.0	36.6	34.9	40.0	40.0	40.0	40.0
	40-200	40.0	39.1	38.5	37.2	35.4	40.0	38.5	37.4	36.5
	50-160	40.0	40.0	40.0	38.6	36.8	40.0	40.0	40.0	40.0
P03	50-200	40.0	39.1	38.5	37.2	35.4	40.0	38.5	37.4	36.5
	32-250	-	-	-	-	-	40.0	40.0	40.0	40.0
	40-250	40.0	40.0	40.0	37.6	35.8	40.0	40.0	40.0	40.0
	40-315	-	-	-	-	-	40.0	40.0	40.0	40.0
	50-250	40.0	40.0	40.0	36.8	35.0	40.0	40.0	40.0	40.0
	50-315	-	-	-	-	-	40.0	40.0	40.0	40.0
	65-160	40.0	40.0	40.0	36.5	34.8	40.0	40.0	40.0	40.0
	65-200	38.2	36.0	35.5	34.5	33.5	39.0	35.4	34.4	33.6
	65-250	40.0	40.0	40.0	36.7	34.9	40.0	40.0	40.0	40.0
	80-160	40.0	40.0	40.0	37.0	35.2	40.0	40.0	40.0	40.0
P04	80-200	38.2	36.0	35.5	34.5	33.5	40.0	40.0	40.0	40.0
	80-250	40.0	40.0	40.0	37.3	35.5	40.0	40.0	40.0	40.0
	100-200	38.2	36.0	35.5	34.5	33.5	39.0	35.4	34.4	33.6
	80-315	-	-	-	-	-	40.0	40.0	40.0	40.0
	100-315	-	-	-	-	-	40.0	40.0	40.0	40.0

Casing bolts: spot-faced  
admissible pressures in bar at °C

Calculation of casing to TFFSC without TRD  
Limit conditioned by type series 40 bar  $p/p' = 1.5$

**Magnochem-Bloc at a Glance**

**Hydraulics:**

From the CPK pump series, well-proven more than 200,000 times

**Casing cover:**

available in variants for heating, external liquid feed and direct temperature measuring.

**Cooling/lubrication:**

forced circulation; minor temperature rise at the containment shroud, no NPSH deterioration.

**Backup ring and assembling aid:**

Protects the containment shroud from damage

Temperature monitoring at the containment shroud with PT 100 (option)

**Casing:**  
heatable version available

**Bearings secured**  
for large temperature range, insensitive to temperature changes

**Drain:**  
Product drains off automatically at the lowest point of the containment shroud

**Bearing assembly (rotor)**  
Sturdy plain bearings made of silicon carbide, product lubricated, for maximum service life.  
Diamond-coated bearings Sicodur Supra are optional

**Heating:**  
Available for rotor space and/or lantern (option)

**Containment shroud:**  
Containment shroud up to PN 25 in Hastelloy, for optimum corrosion resistance at minimal eddy current losses

**Leakage monitoring:**  
Facilities provided at the highest (vapour) and at the lowest (condensate) point (optional)

**Safety:**  
Pump with magnetic coupling, absolutely leakage-free, with containment shroud made of Hastelloy C4. Only 2 static seals. Temperature and leakage monitoring possible.

**Handling:**  
Easy to assemble.  
When the drive unit is removed, the can remains bolted to the casing, thus sealing off the medium (pump need not be drained).

**Economic viability:**  
Any existing CPK pump within the Magnochem selection range can be converted without any problems (Please refer to Magnochem-Bloc selection chart)

