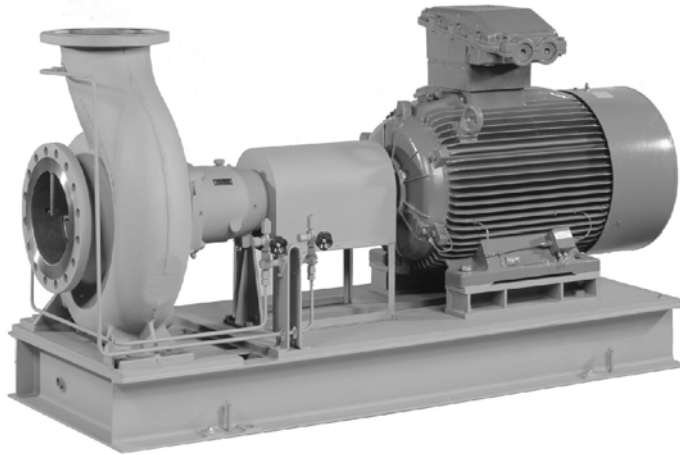


Hot Water Circulating Pumps Standard Programme



Automation products available:

- Hyamaster
- hyatronic

Fields of Application

HPK pumps in standard design are used for plants where hot water thermal oils must be transported in pipeline or tank systems, particularly in medium-sized and large heating systems, forced circulation boilers, district heating systems and similar. HPK-E and HPK-E4 have been type-tested to TRD (German Steam Boiler Regulations) by TÜV (Technical Control Board). Type test certificates can be offered and supplied on request.

Design

Horizontal, radially split volute casing pump in back pull-out design with radial impeller, single-entry, single-stage, in accordance with EN 22 858/ISO 2858/ISO 5199. Complemented by pump sizes DN 25 and DN 200 to DN 400.

Designation

Type series _____ HPK - S M 40-200
 Material of wetted parts _____
 Additional code _____
 Discharge nozzle DN _____
 Nominal impeller diameter in mm _____

Additional codes:

M = mechanical seal

x = uncooled shaft seal chamber

Operating Data

Pump sizes	DN	25 to 400
Capacities	Q	up to 4.800 m ³ /h (1.330 l/s)
Heads	H	up to 275 m
Operating pressures	p	up to 25 bar (-S/-E) 40 bar (-E4)
Operating temperatures	t	up to +240 °C (hot water) +400 °C (thermal oils - on request!)

Certification

Certified quality management ISO 9001.

Materials

Part No.	Description	HPK - S / Sx	HPK - E / Ex	HPK - E4
102	Volute casing	JS1025 ³⁾	GP240GH+N	1.7706
161	Casing cover	P250GH	P250GH	P250GH
183	Support foot	S235JRG2 ¹⁾	S235JRG2 ¹⁾	S235JRG2 ¹⁾
210	Shaft	C45+N	C45+N	C45+N
230	Impeller	JL1040 ²⁾⁴⁾	JL1040 ²⁾⁴⁾	JL1040 ²⁾⁴⁾
330	Bearing bracket	JL1040 ²⁾⁴⁾	JL1040 ²⁾⁴⁾	JL1040 ²⁾⁴⁾
344	Bearing bracket lantern	JS1025 ³⁾	JS1025 ³⁾	JS1025 ³⁾
452.01	Gland	1.4571	1.4571	1.4571
454.01	Stuffing box ring	1.4571	1.4571	1.4571
471.01	Seal cover	C22+N	C22+N	C22+N
502.01	Casing wear ring	JL1040 ⁴⁾	---	---
524.01	Shaft protecting sleeve (gland packing)	1.4122 hardened	1.4122 hardened	1.4122 hardened
524.01	Shaft protecting sleeve (mechanical seal)	1.4571	1.4571	1.4571
922	Impeller nut	1.4571	1.4571	1.4571

1) for bearing bracket P 05s and above: GJS-400-15

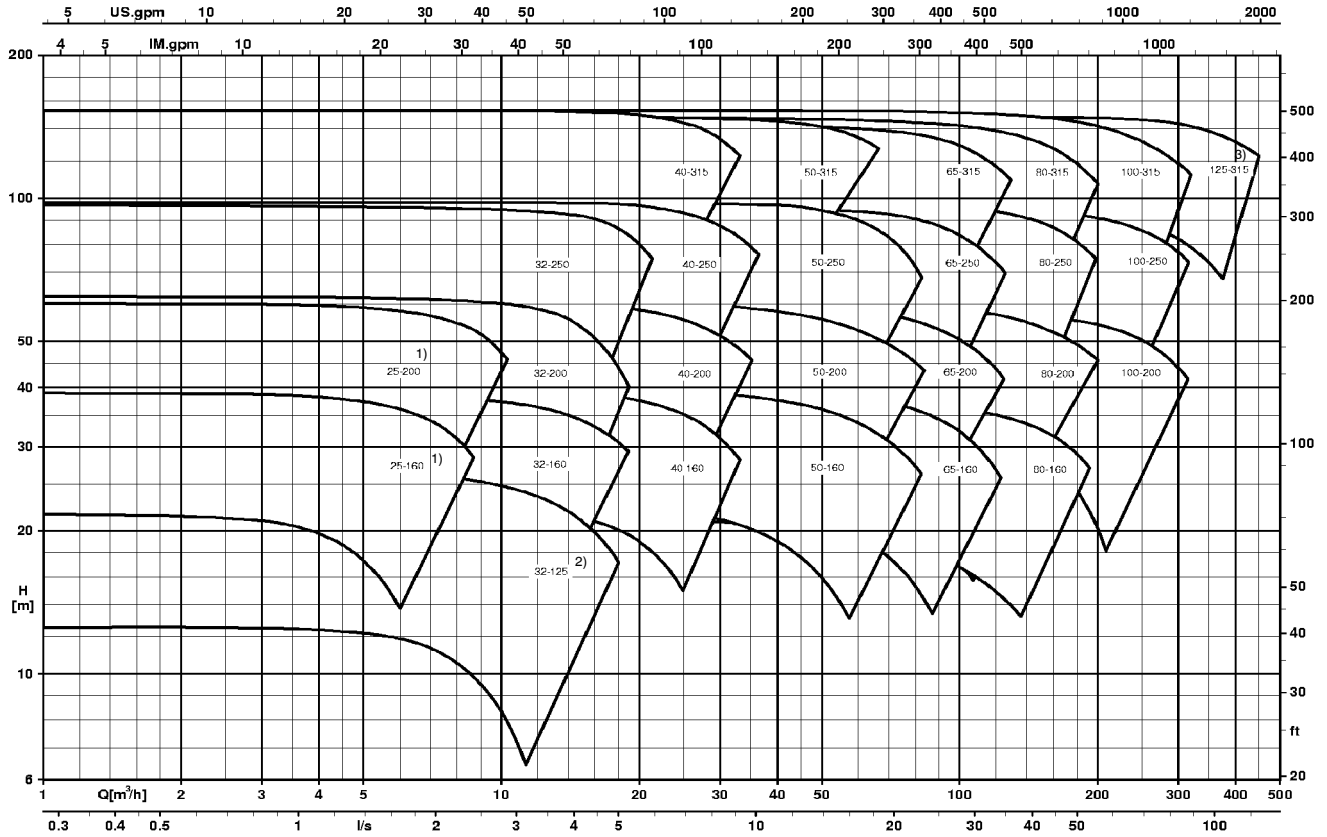
2) for pumps with bearing bracket P 04: GJS-400-15; for all other bearing brackets, if $v_u > 48$ m/s: 1.4408

3) GJS-400-18-LT to EN 1563

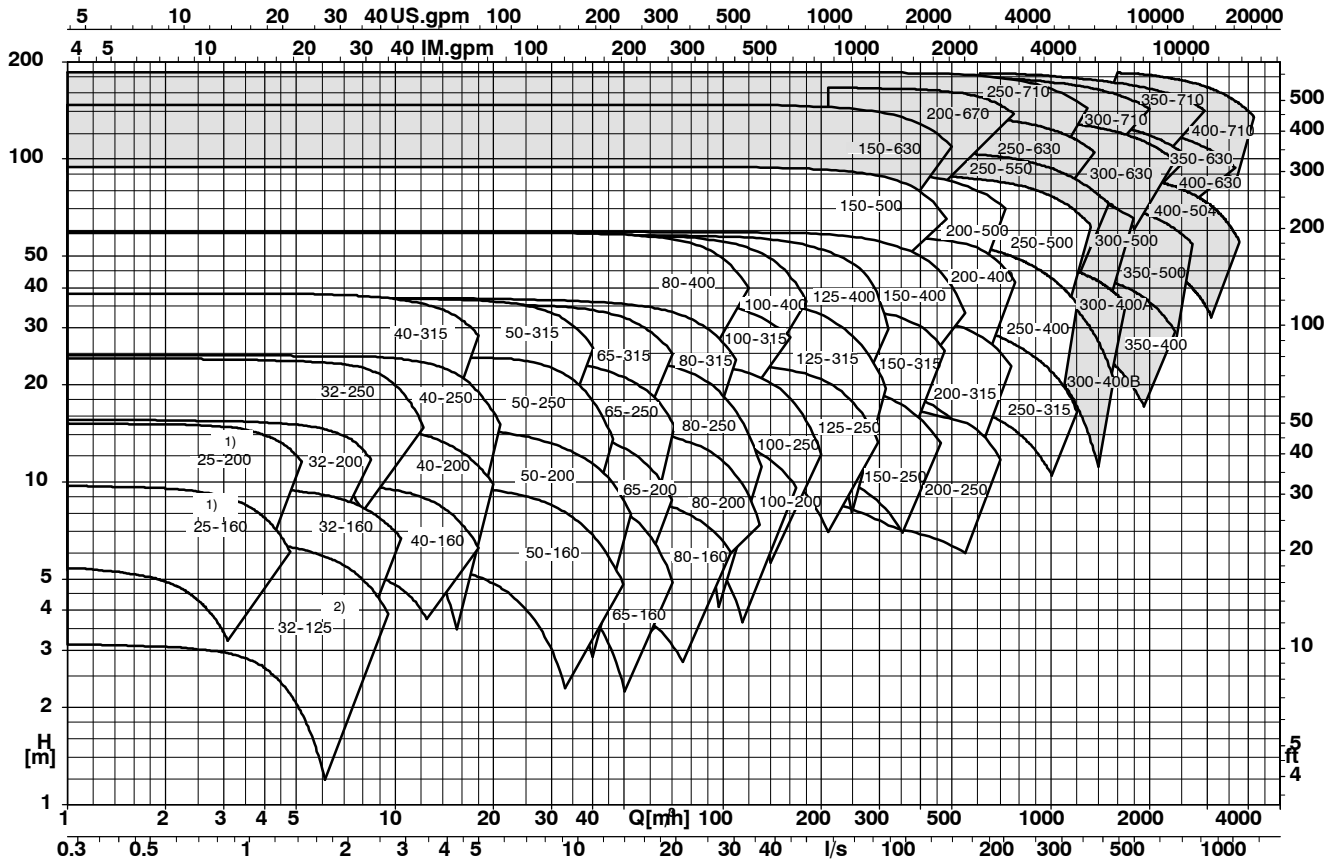
4) GJL-250 to EN 1561

Selection Charts

n = 2900 rpm



n = 1450 rpm



Complementary sizes on request

1121C.4054/4

- 1) HPK-S/-E4 not available in this size
- 2) HPK-E/-E4 not available in this size
- 3) available as HPK-E4 only

Advantages at a Glance

Hydraulics:
nominal data and dimensions to ISO 2858/EN 22 858.

Impeller:
reduced axial thrust and shaft seal balancing due to back vanes.

Casing wear ring (HPK-S):
can be replaced.

Shaft:
not in contact with the fluid handled (dry shaft, therefore no special materials required).

Pressure-retaining parts:
safe design due to computerized strength analysis and quality casting with corrosion allowance.

Standardized modular design
ensures small stock of spare parts and fast delivery.

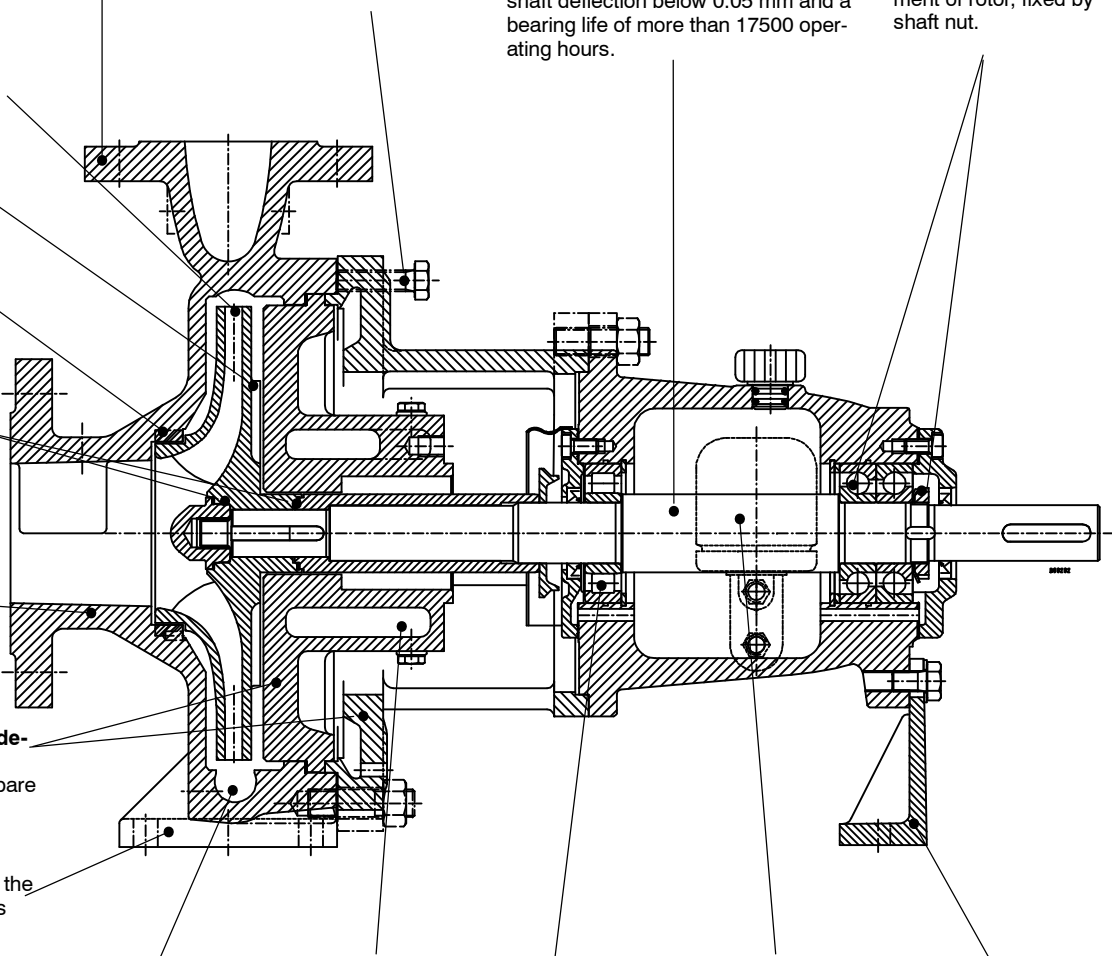
Back pull-out design:
the casing may remain in the pipeline when the pump is dismantled.

Flanges:
PN 25

Forcing screws
for easy dismantling.

Rotor and bearings
are dimensioned so as to ensure a shaft deflection below 0.05 mm and a bearing life of more than 17500 operating hours.

Fixed bearing:
minimum axial movement of rotor, fixed by shaft nut.



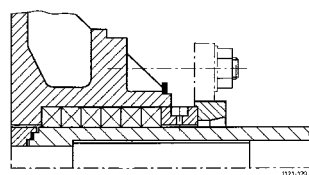
Volute
with low radial forces (double volute depending on pump size).

Intensive cooling

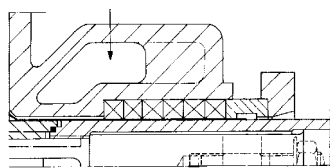
Radial bearing
permits easy assembly and absorbs thermal expansion of the shaft.

Constant-level oiler
ensures constant lubrication of the bearings and oil level monitoring.

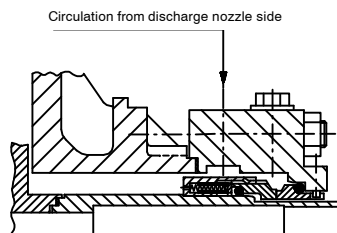
Support foot:
Rigid and stable; even in the case of high external forces the shaft is only slightly displaced in the coupling area.



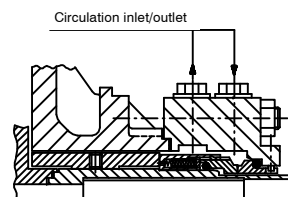
Uncooled gland packing



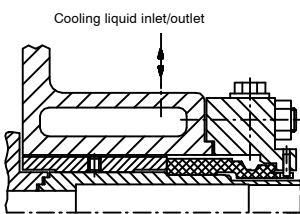
Cooled gland packing



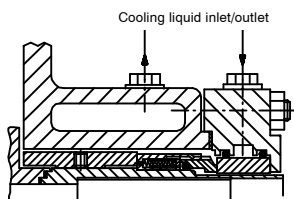
Single-acting mechanical seal without cooling



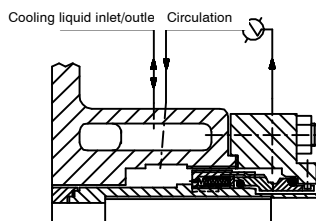
Mechanical seal with air-cooled heat exchanger



Single-acting, intensively cooled mechanical seal



Single-acting, intensively cooled mechanical seal with seat ring cooling



Single-acting, intensively cooled mechanical seal with external heat exchanger

Subject to technical modification without prior notice.

01.09.2010

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