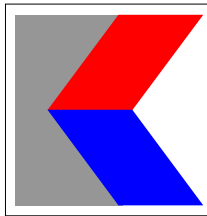


# **SAH / VSAH High Pressure Process Pumps**

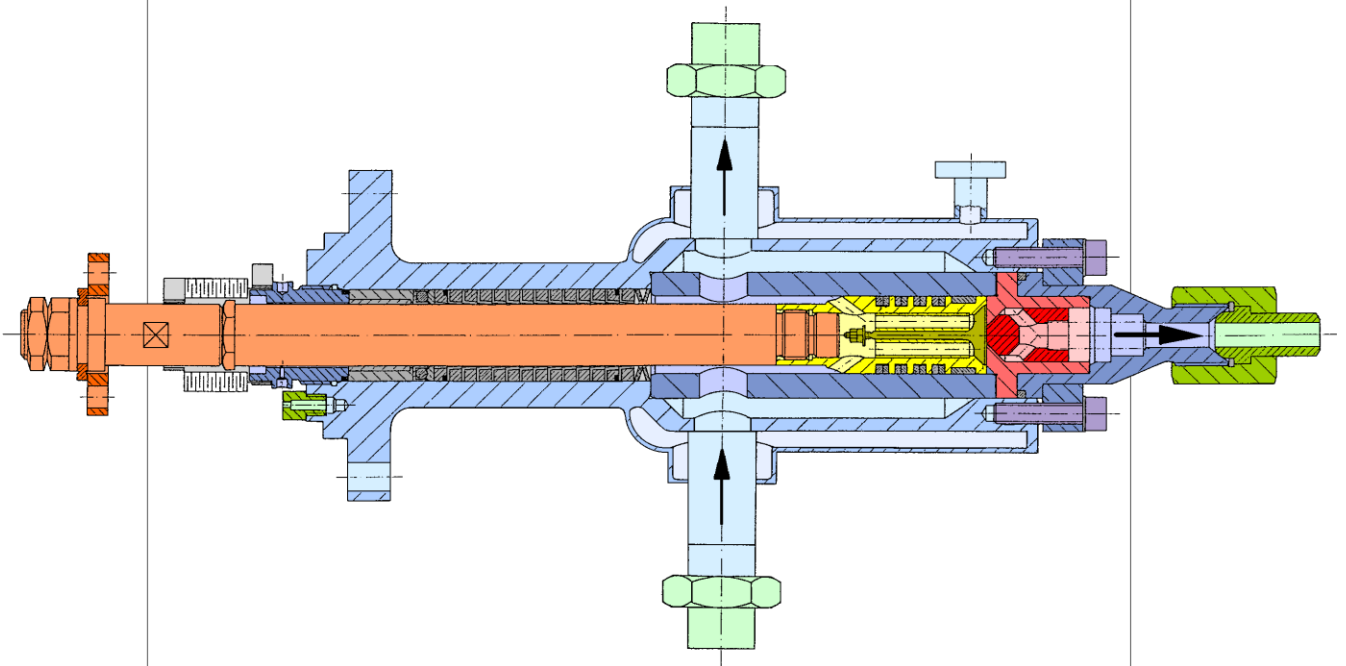


**KRYTEM**

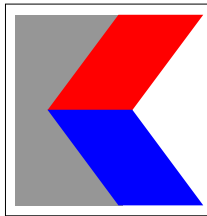


# **Krytem-SAH / VSAH - Low-temperature high-pressure pumps for process technology**

Pressure production from the liquid phase has generally proved itself to be particularly economic for industrial gases in high-pressure processes. In most cases, the energy costs are significantly lower than the cost of compressing the gas phase. Furthermore reciprocating pumps facilitate high pressure application of high purity gases.



SAH pumps are used to provide reliable supplies of medium-to-high quantities of fluid for these types of processes in state-of-the-art thermosyphon type tank installations. As is the case for SA series pumps, the suction valve is integrated in the piston head. The suction valve opens, supported by its own inertia, during the return stroke of the piston, and allows the fluid standing behind to flow freely into the cylinder. A high degree of admission is achieved for the cylinder even when conditions on the suction side are unfavourable.



SAH pumps are used for discharge pressures up to 420 bar and volumetric flows up to approx. 50 l/min in, for example, process and plastics technology. Their use in pressure gas bottling is also possible. The vacuum-insulated model (VSAH) is designed for media at temperatures below  $-50^{\circ}\text{C}$ .

VSAH / SAH pumps feature 45 or 60 mm stroke F-series belt-driven eccentric-drive units or 30 mm LDE drive units with an integrated transmission. The whole pump unit including the pump head, crank drive, transmission, electric motor, belt safety cover and accessories is mounted on a galvanised steel frame ready for connection.

SAH pumps are available with speed controllers with and in an explosion-protection design.

### **Major design features:**

- The suction valve integrated in the piston head provides for low cavitation even under unfavourable operating conditions.
- Pressure valve can be dismantled without disassembly of the pump head.
- Structural separation of the pump head from the drive prevents any unacceptable contact between lubricant and discharge medium.
- Shear-ring coupling between the pump head and the drive protects the pump against unacceptable mechanical loading.
- The piston-rod seal packing is designed for a reproducible long service life. It features a controlled heater and a bellow-type sleeve that protect the packing against ice formation and dust ingress.
- A pulsation damper reduces stroke-induced pressure and flow pulses and machine vibration.

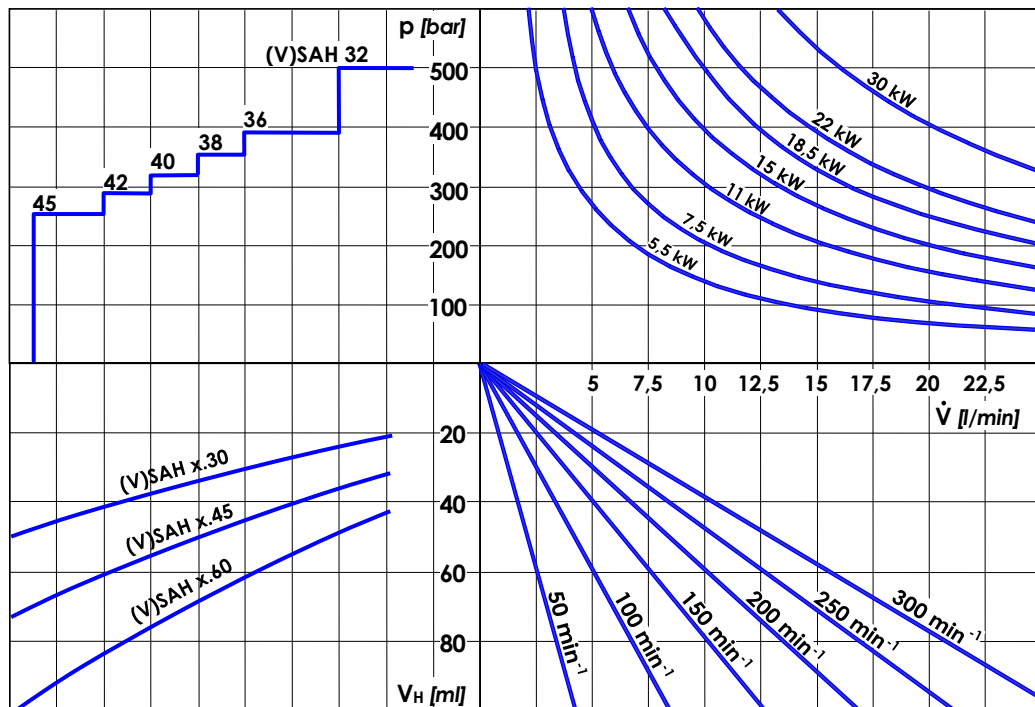
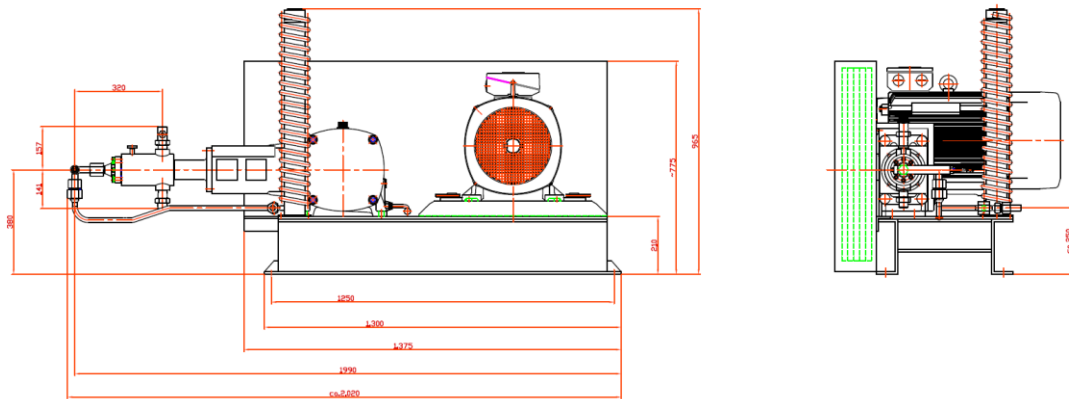
#### *optional:*

- Pump control panel including automatic start routine (automatic valve control on suction side), seal temperature control and dry running protection.
- Optional step-wise or steady flow or pressure control.



# Data Sheet SAH / VSAH

operating media	-	cryogenic liquids		
operating temperature	°C	SAH: -50 ... -10°C, VSAH: -200°C ... -50°C		
inlet pressure	bar g	max. 25 bar		
$NPSH_{req}$	m	$\leq 0,5 \text{ m @ } 200 \text{ min}^{-1}$ (N <sub>2</sub> liquid, -196°C)		
pump head design	-	piston pump with piston-integrated suction valve		
pump head materials	-	1.4301, 1.4541, 1.4571, PTFE		
main bore diameter	mm	32 / 36 / 38 / 42 / 45 / 50		
gear box type	-	L	F-01	DF-01 (DF-02)
transmission	-	integr. worm wheel	belt transmission	
stroke length	mm	30	45	60 (2 x 60)
max. piston force	kN	20	40	
motor type	-	TEFC-motor - with aux. fan cooler if required		
flow range	l/min	1 ... 10	5 ... 25 (10 ... 50)	
design pressure discharge	bar g	up to 330	up to 420	



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