

LPG - Side Channel pump

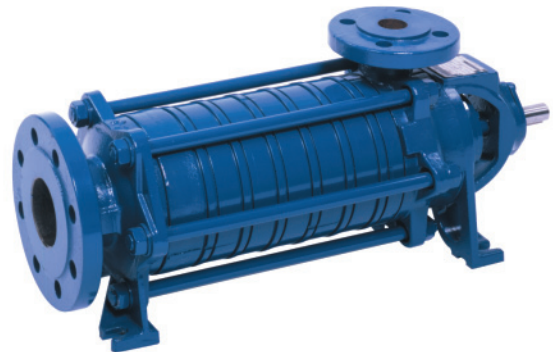
For handling gas along with the medium



SC 2000

Technical data

Capacity:	from 16 up to 65 l/m
Differential pressure:	from 3 up to 14.5 bar
Speed:	2900 rpm
Temperature:	max. 80 °C
Casing pressure:	PN 25
Shaft sealing:	mechanical seal
Flange connections:	DIN 2501 / PN 25
Direction of rotation:	Anti-clockwise (when seen from the drive end)



Application

The Sterling SIHI SC 2000 pump is a self-priming side channel pump capable of handling gas along with the medium and operates at a low noise level.

The SC 2000 is, due to its special design, very suitable for problem-free pumping of clean liquids at unfavourable suction side conditions. The SC 2000 can also be used for NPSH_A of 0,4 - 0,65 m.

The SC 2000 is especially developed for:

- LPG-plants for the pumping of propane / butane,
- Bottom off-loading.

Design

Pumps of the series SC have a segmental type construction with open vane wheel impellers. The construction of the SC pump is a so-called centrifugal combined system. This combination pump is suited with a centrifugal stage in serial connection before the side channel stages to obtain a more favourable NPSH.

The SC 2000 pump has 1 - 4 stages and is available in cast iron EN-GJL-250 or Nodular iron EN-GJS-400-18-LT.

The applied hydraulic components are from our Modular Side Channel system (interchangeability of parts).

For the handling of LPG we would also like to refer to:

- PC Plant / LPG - Side Channel Pump Systems
- LPG Pumps and Plants
- LPG Applications - Pumps and Plants

Technical documents about these pump series will be readily supplied on request.

Construction

Casing pressure

Maximum 25 bar from - 25 °C up to + 80°C.

Please observe

Technical rules and safety regulations:

Casing pressure = inlet pressure + delivery head at minimum pump capacity.

Position of branches

Axial suction branch, discharge branch points radially upwards

Flanges

The flanges correspond to DIN EN 1092-2 / PN 25

Bearing

One grease lubricated ball bearing according to DIN 625 and one liquid surrounded sleeve bearing (design A). The ball bearing is greased for life.

Direction of rotation

Anti-clockwise, when looking from the drive end.

Shaft sealing

The shaft is sealed with a mechanical seal suitable for LPG.

Casing seal

The casing is sealed by paper ring.

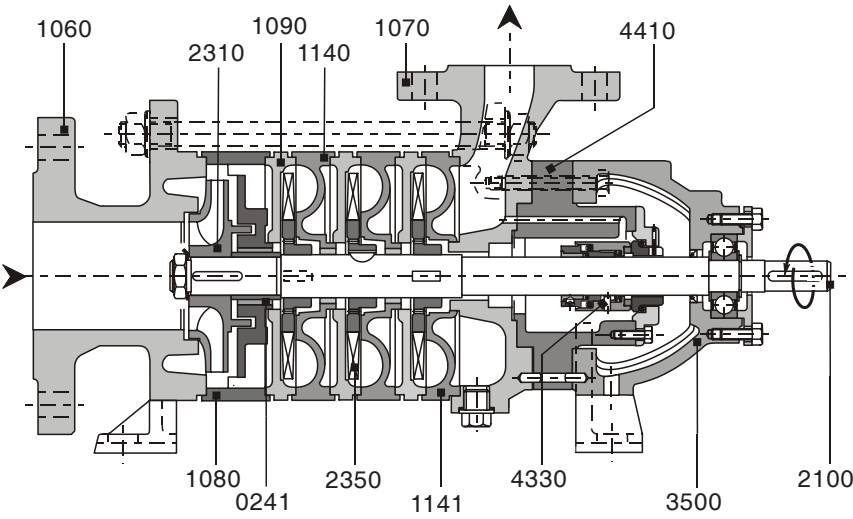
Drive

By electric motor, type of construction IM B3, explosion proof.

Material design SC

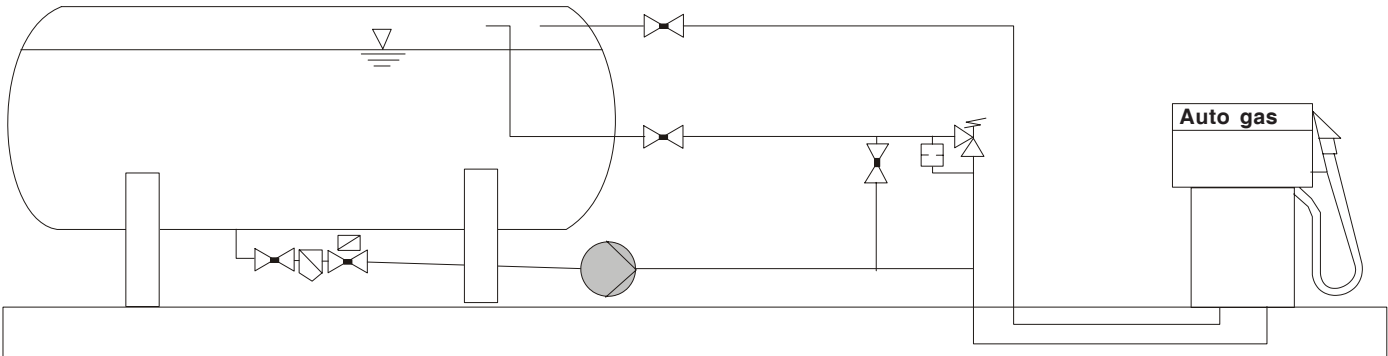
Pos	Components	Material design	
		0A	1A
1060	Suction casing	EN-GJL-250	EN-GJS-400-18-LT
1070	Discharge casing		
1080	Intermediate piece		
1090			
1140 1141			
2100	Shaft	X 20 Cr 13	
2310	Impeller	EN-GJL-250	
2350	Vane wheel impeller	CuZn40Al2	
3500	Bearing housing	EN-GJL-250	
4410	Mechanical seal casing	EN-GJL-250	EN-GJS-400-18-LT
0241	Bearing bush	CY 10 C	

Sectional drawing and parts list SC (typical)



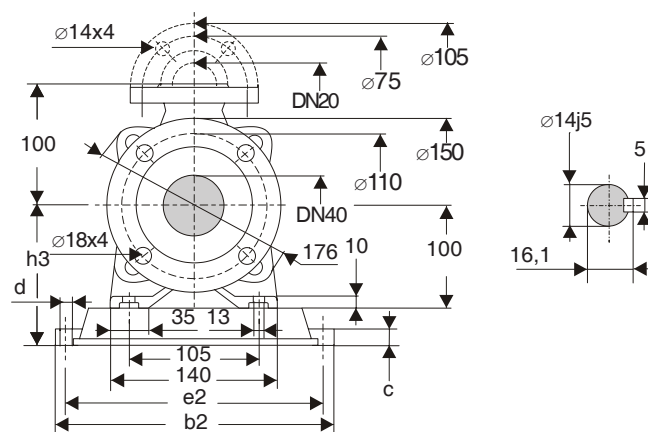
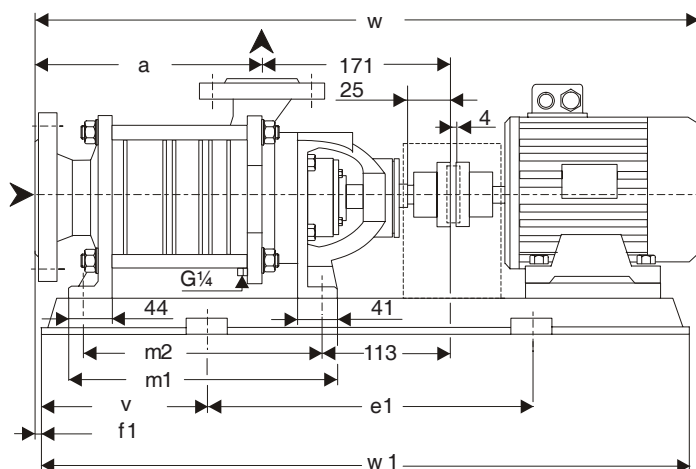
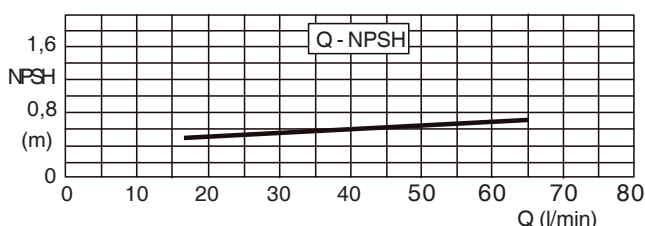
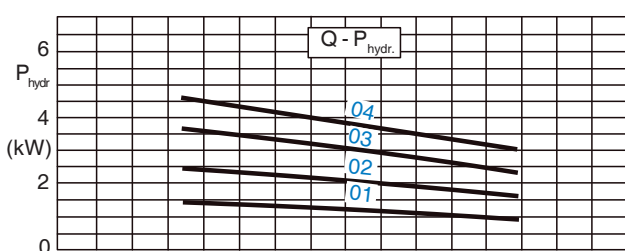
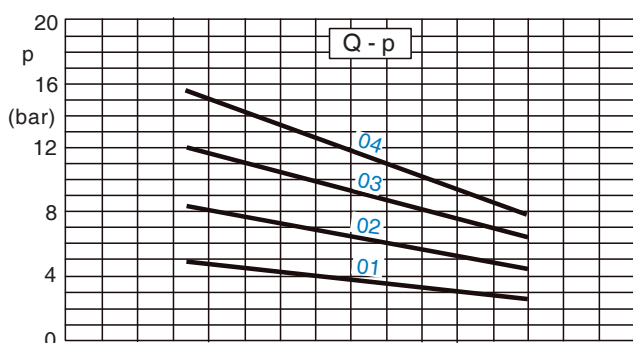
- | Pos. | Components |
|------|------------------------------|
| 0241 | Bearing bush |
| 1060 | Suction casing |
| 1070 | Discharge casing |
| 1080 | Intermediate piece |
| 1090 | Suction intermediate piece |
| 1140 | Discharge intermediate piece |
| 1141 | Discharge intermediate piece |
| 2100 | Shaft |
| 2310 | Impeller |
| 2350 | Vane wheel impeller |
| 3500 | Bearing housing |
| 4330 | Mechanical seal |
| 4410 | Mechanical seal casing |

Installation scheme for car filling station



Dimension chart, Pump set drawing and Performance curves

SC 2000 - 2900 rpm



General: Values are valid for propane $\rho = 0,52 \text{ kg/l}$.

Characteristic tolerance: Capacity $\pm 5\%$ - Delivery head $\pm 5\%$ - Power $+ 10\%$.

Pump size	Motor		Base plate	Coupling	Weight		a	b2	c	d	e1	e2	v	f1	h3	m1	m2	w*	w1
	kW	size			pump	set													
2001	1.5	90S	P241	BDS 76	20	60	229	330	25	19	480	290	115	-9	165	238	204	718	730
	2.2	90L		BDS 88		63												743	
2002	2.2	90L	P241	BDS 88	22	68	263	330	25	19	480	290	115	-9	165	272	238	777	730
	3	100L				81												820	
2003	3	100L	P272	BDS 88	24	91	297	360	25	19	540	320	130	-9	177	306	272	854	820
	4	112M				108												864	
2004	3	100L	P272	BDS 88	26	103	331	360	25	19	540	320	130	-9	165	340	306	888	820
	4	112M				111												898	
	5.5	132S	P303	BDS 103	131	390	600	350	150	197	177	197	340	306	955	920			

* Dimensions depend upon the motor brand.
Pay attention to positive suction head for boiling liquids.
NPSH = required positive suction head for boiling liquid.

Correction for a different density:

Medium	Propane, density 0.52 kg/l	Butane, density 0.6 kg/l
Pump	SC 2001	SC 2001
Capacity	35 l/min	35 l/min
Diff. pressure	4 bar	4 bar x (0.6/0.52) = 4.6 bar
Power	1.25 kW	1.25 kW x (0.6/0.52) = 1.44 kW

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