

**Differential pressure:** up to 10 bar  
**Maximum flow rate:** 100 l/min

## Design

SIHI submersible pump type SM-X is a side channel including the following features:

- ATEX certification
- Reliable operation during summer or winter
- Low NPSH
- Side channel hydraulics with steep performance curves
- Motor cooled by media
- Easy installation
- No maintenance
- Easy handling
- Increased safety by separation between electrical connection and fluid pipe
- Optional intelligent drive for energy saving and higher flow rates

SIHI submersible side channel pump SM-X is the ideal choice for LPG car filling applications (up to 2 nozzles).



## Application

LPG car filling stations have different configurations depending on countries and local regulations. The submersible pumps are used all over the world to avoid any installation and piping above the ground which lead to better safety and cleanest station design.

The principal disadvantage of the stations installed with submersible pumps is the ownership cost due to the emptying of the tank in case of maintenance of the pump.

Due to its unique design, SIHI pump type SM-X reduce the maintenance operation to its minimum.

## Remarks

The SIHI pump type SM-X is an innovative product that can be dropped in place to the other usual submersible pumps used in most of the LPG car filling stations.

Due to its design, this pump can be installed without bypass valve as an internal bypass secure the minimum flow of the pump.

The well-known reliability of the side channel pump is combined with the safe use and the simple design of a submersible pump.

An optional intelligent drive allows to use one pump for 2 nozzles and reduce the energy consumption by adjusting the performance to the exact need of the installation.

## Technical data

Pump type	Unit	Values
Maximum flow rate	l/min	100 l/min
Maximum differential pressure	bar	up to 10 bar
Maximum motor speed	1/min	3400
Voltage 50hz / 60hz	V	400V / 480V
Maximum power consumption	kW	4
Noise emissions	dB(A)	< 70
Nominal pressure	bar	PN 25
Operating temperature	°C	-20°C to + 40°C

Values are calculated for LPG with specific gravity of 0.56 kg/dm<sup>3</sup>

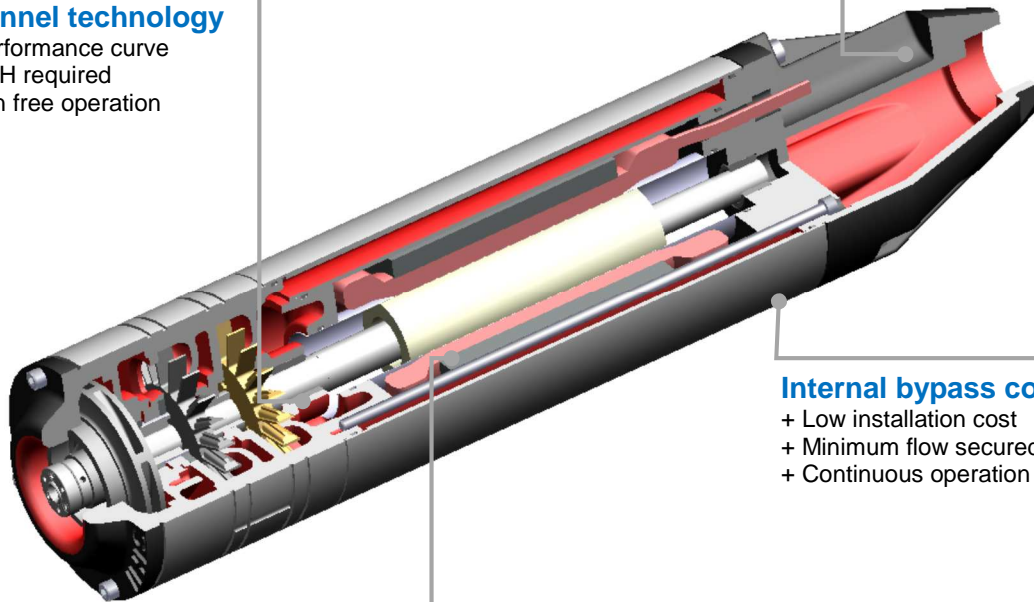
## Advantages of the SM-X

### Side channel technology

- + Steep performance curve
- + Low NPSH required
- + Cavitation free operation

### Electrical connection separate from pressure

- + Highest safety
- + Easy installation
- + Easy replacement



### Internal bypass connection

- + Low installation cost
- + Minimum flow secured
- + Continuous operation

### Canned motor design

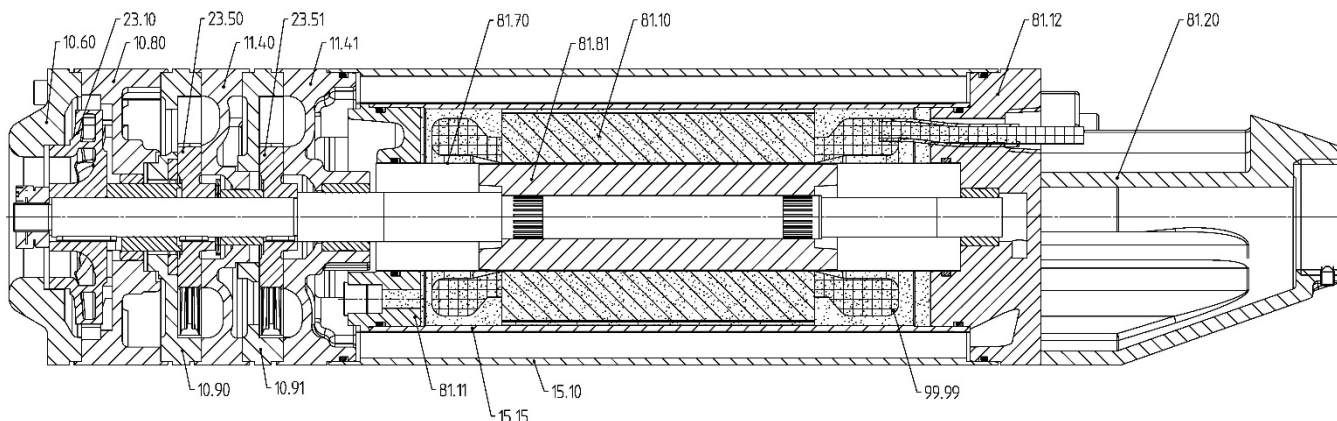
- + Highest safety
- + No dynamical sealing
- + Maintenance free operation
- + Low weight

## Variants of SM-X

The SIHI pump type SM-X is available in one unique variant. The pump can operate up to two nozzles when plugged to our intelligent electronic controller.

The owner of a SM-X pump can take benefit of a standard exchange at lower cost thanks to our unique refurbishing concept.

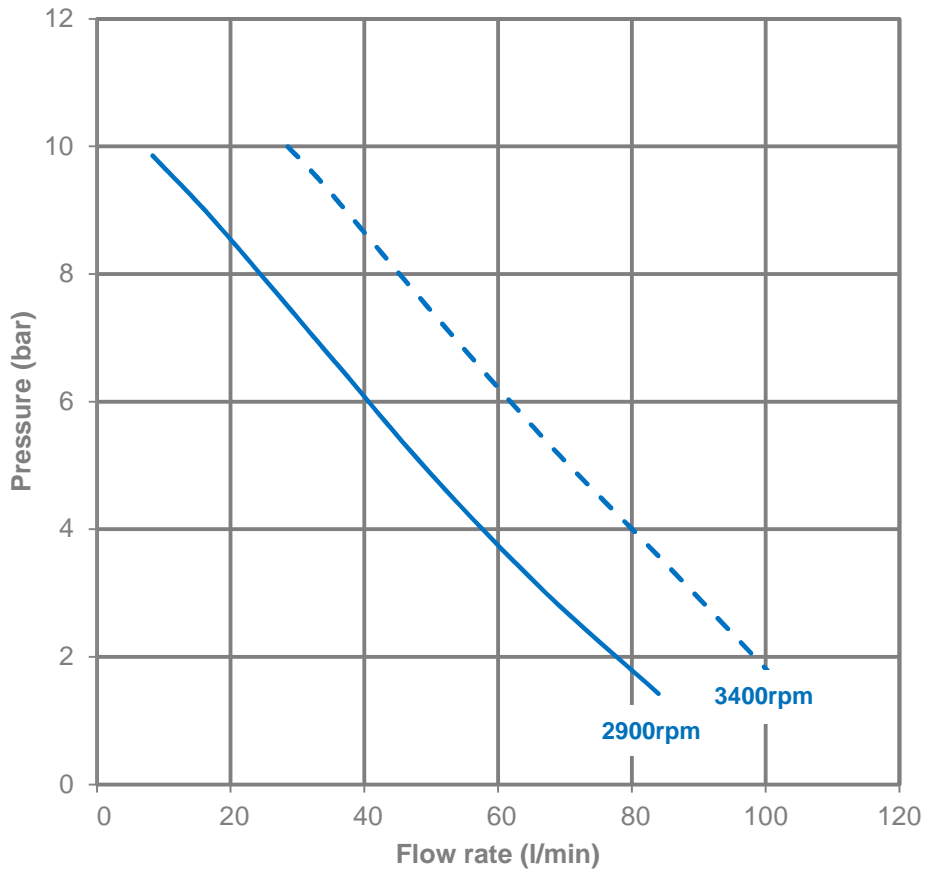
## Sectional drawing



## Parts list

Pos.	Designation	Material
10.60	Suction Casing	0.7040
10.80	Low NPSH stage	0.7043
10.90	Suction intermediate (1)	0.7040
10.91	Suction intermediate (2)	0.7040
11.40	Side channel intermediate (1)	0.7040
11.41	Side channel intermediate (2)	0.7040
15.10	Shell casing	AW 6060
15.15	Outer Can	AW 6060
23.10	Low NPSH impeller	0.6025
23.50	Vane wheel impeller (1)	1.4517
23.51	Vane wheel impeller (2)	2.0561
81.10	Stator	Different materials
81.11	Motor casing (1)	0.7040
81.12	Motor casing (2)	0.7040
81.20	Pump head	0.7040
81.70	Inner Can	1.4301
81.81	Rotor	Different materials
99.99	Resin	Epoxy

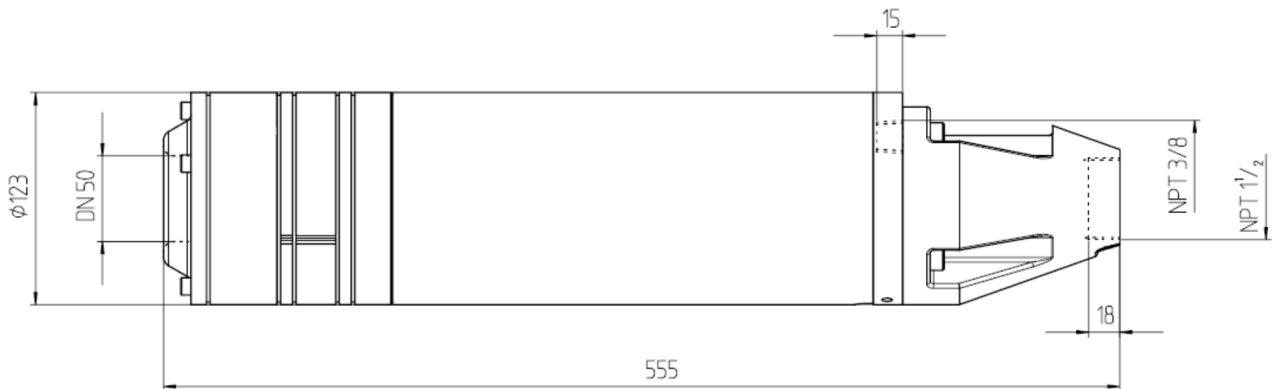
Performance curves SM-X



Above curves are valid for LPG with specific gravity of 0.56 kg/dm<sup>3</sup>

Dimensional drawing SM-X

Dimensions [mm]



Net weight: 25 kg

## Pump codification

Pump type	Size	Number of stages	Hydraulic	Bearing set-up	Shaft seal	Material combination	Gasket	Additional option	Motor size
	20 = Side channel hydraulics	02 = Two side channel impellers	A = Standard SC hydraulics left hand driven	F = 2 carbon sleeve bearings	D = Can motor (New) R = Can motor (refurbished)	1A = GGG casing / stages and brass impellers	P = Perbunan	A = Standard	61 = Size similar to 132M
SMXA	20	02	A	F	D	1A	P	A	61

Codification example: SMXA 2002 AF D 1A PA 61

## Accessories

Designation	Features	Remarks
SIHI Intelligent Drive (frequency converter)	<ul style="list-style-type: none"> <li>- Energy saving</li> <li>- Increase flow rate for 2 nozzles</li> <li>- Dry running protection</li> <li>- Overload protection</li> </ul>	
ELFI Power monitor	<ul style="list-style-type: none"> <li>- Dry running protection</li> <li>- Overload protection</li> </ul>	Required if no level control is installed in the tank. Not needed if SIHI intelligent drive is used.
Adaptor kit for Red Jacket V17/21	Drop in place of existing pump installations	No modifications required.
Adaptor kit for Ebsray RX33	Drop in place of existing pump installations	No modifications required.

