

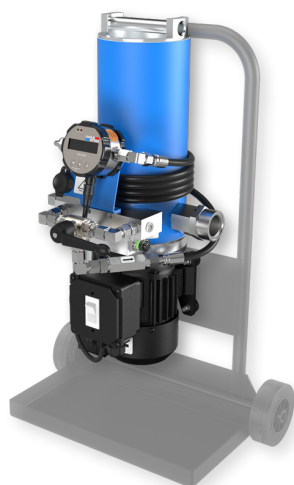
## MFNA Modular Program



MFNA1-016 basic core unit



MK1-PC-016 - particle monitor kit for expansion of the MFNA1-016 unit



MFNAPC1-016 - unit expanded to version with particle monitor kit  
(portable trolley not included in the delivery)

- › Pre-assembled filtration units, ready for installation in mobile trolleys
- › With ON/OFF switch
- › Modular system, easy to upgrade to higher versions
- › Order the full version or expand your system in stages

### Description

#### MFNA

Modular off-line filtration unit with a nominal flow of 16 or 45 l/min (4.2 or 11.9 gpm). In all variants, the electric motor is equipped with an ON/OFF switch which makes the system ready to be installed in mobile trolleys without any extra investment in an electric control box.

#### Protection of components through ultra-fine filtration

The ultra-fine filter element is the heart of the filtration unit. High separation efficiencies guarantee excellent cleanliness levels and thereby highest protection of components. The high dirt holding capacity of the filter elements allows economic operation of the device.

#### MK1-PC: Easy upgrade from basic to hi-tech version

The device can be ordered in the basic or advanced version. The modular design allows the basic system to be expanded with a particle monitor kit at any time.

#### Filtration & oil cleanliness monitoring

The version with the OPCOM Particle Monitor kit permanently monitors the current cleanliness class during the cleaning or filling process.

At the display of the OPCOM Particle Monitor, the result is shown according to ISO 4406:1999, NAS 1638, SAE AS 4059 or GOST 17216.

The system can store up to 3000 data sets. A PC-software for data recording and representation of the measured values can be downloaded for free at [www.argo-hytos.com](http://www.argo-hytos.com).

### Flow rate

MFNA1-016:

up to 16 l/min at viscosity = 35 mm<sup>2</sup>/s  
(up to 4.2 gpm at viscosity = 162 SUS)

MFNA1-045:

up to 45 l/min at viscosity = 35 mm<sup>2</sup>/s  
(up to 12 gpm at viscosity = 162 SUS)

### Operating pressure

MFNA1-016: max. 5 bar / 72 psi

MFNA1-045: max. 7 bar / 101 psi

### Viscosity range

MFNA1-016:

15 - 250 mm<sup>2</sup>/s

15 - 150 mm<sup>2</sup>/s to assure exact measurement of the oil cleanliness class

MFNA1-045:

15 - 600 mm<sup>2</sup>/s

15 - 250 mm<sup>2</sup>/s to assure exact measurement of the oil cleanliness class

### Temperature range of fluids

0 °C ... +65 °C / +32 °F ... +149 °F

(also see viscosity range)

### Ambient temperature range

-10 °C ... +50 °C / +14 °F ... +122 °F

### Applicable filter elements

**EXAPOR<sup>®</sup>**  
**MAX**

for efficient separation of solid particles

**EXAPOR<sup>®</sup>**  
**Spark Protect**

for separation of solid particles and protection against electrostatic discharges (oils with low electrical conductivity < 500 pS/m at 20 °C)

**EXAPOR<sup>®</sup>**  
**AQUA**

for separation of free water and solid particles

### Dirt holding capacity

The dirt-holding capacity values in grams from the ISO MTD test dust are in accordance with the ISO 16889 requirements (see Ordering Code, table Filter Element).

### Clogging indicator

MFNA1-016

Optical differential pressure switch, type DG 042-01

MFNA1-045

Optical differential pressure switch, type DG 042-04

### Hydraulic fluids

Mineral oil and biodegradable fluids (HEES and HETG, see info service sheet 00.20). Other fluids on request.

### Electrical motor types (see also order code)

MFNA1-016:

Single or three phase version:

1~ 110 - 120 V / 50 / 60 Hz, 0.45 kW

1~ 220 - 240 V / 50 / 60 Hz, 0.45 kW

3~ 380 - 480 V / 50 / 60 Hz, 0.45 kW

MFNA1-045:

Single phase version:

1 ~ 220 - 240 VAC 50 / 60 Hz, 1.1 kW / 1.5 hp

1 ~ 110 - 120 VAC 50 / 60 Hz, 0.75 kW / 1 hp

### Hydraulic hoses

Not included in the delivery. Can be ordered separately.

### Permitted suction heights

max. 2 m (unfilled)

max. 6 m (in operating condition)

### Weight

MFNA1-016

Basic version: 11 kg

Version with particle monitoring module: 17 kg

MFNA1-045

Basic version: 37 kg

Version with particle monitoring module: 45 kg

### Operating and transport position

Operating position: upright

Transport position: upright or horizontal







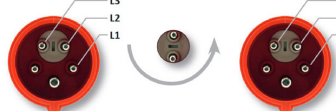
## Ordering code, size 16 (16 l/min / 4.2 gpm)

Type of unit		Code	
Modular off-line filter unit		MFNA	
Product version		Code	
Basic core			
With particle monitor kit MK1-PC		PC	
Nominal flow rate 16 l/min / 4.23 gpm		016	
Electric motor			
Phase(s), voltage	Frequency	Power	Code
1~220-240 VAC	50/60 Hz	0.45 kW / 0.6hp	23050
1~110-120 VAC	50/60 Hz	0.45 kW / 0.6hp	11050
3~380-480 VAC	50/60 Hz	0.45 kW / 0.6hp	40050
Electric cable		Code	
Without electric cable		no code	
With electric cable - provide length in meters			

MFNA 1 - 016 / /

### Electric plug - code and description below

Other types - on request

EF	G	J	B	I6	I4	I5	No code
220-250 VAC	220-250 VAC	220-240 VAC	100-127 VAC	200-250 VAC INDUSTRIAL	110-130 VAC INDUSTRIAL	380-480 VAC INDUSTRIAL	Without plug
15 A TYPE E/F (CEE77 Unischuko)	13 A TYPE G (BS 1363)	10 A TYPE J (T12)	15 A TYPE B (NEMA 5-15P)	Type 013-6 16A-6h 3-pins (2P+PE)	Type 013-4 16A-4h 3-pins (2P+PE)	Type 715-6 16A-6h 5-pins (3P+N+PE), IEC 60309 With phase crossover	
							

### Ordering codes examples

**MFNA1-016/23050/5G** - basic version, modular design, voltage 220-240V AC 50/60Hz, 5 meter electric cable and plug type G  
**MFNAPC1-016/11050** - version with particle monitor kit, motor voltage 110-120V AC 50/60Hz, without electric cable and plug

## Filter elements for size 16 (16 l/min / 4.2 gpm)\*

\*Filter elements must be ordered separately

Type	Fineness ( $\beta=200$ )	Dirt-holding capacity according to ISO 16889 / water capacity	Code
EXAPOR <sup>®</sup> MAX	3 $\mu$ m	280 g	V7.1220-113
EXAPOR <sup>®</sup> MAX	5 $\mu$ m	270 g	V7.1220-13
EXAPOR <sup>®</sup> MAX	10 $\mu$ m	210 g	V7.1220-06
EXAPOR <sup>®</sup> AQUA	7 $\mu$ m	85 g / 190 ml	Y7.1220-05
EXAPOR <sup>®</sup> AQUA	3 $\mu$ m	105 g / 205 ml	Y7.1220-113
EXAPOR <sup>®</sup> SPARK PROTECT	3 $\mu$ m	280 g	Z7.1220-113

**Ordering code, size 45 (45 l/min / 11.9 gpm)**

**MFNA**

**1 - 045 / /**







Type of unit	Code
Modular off-line filter unit	MFNA

Product version	Code
Basic core	
With particle monitor kit MK1-PC	PC

Nominal flow rate 45 l/min / 11.9 gpm	045
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Electric motor			Code
Phase(s), voltage	Frequency	Power	
1~220-240 VAC	50/60 Hz	1.1 kW / 1.5 hp	23050
1~110-120 VAC	50/60 Hz	0.75 kW / 1hp	11050

Electric cable	Code
Without electric cable	no code
With electric cable - provide length in meters	

Electric plug - code and description below						
Other types - on request						
EF	G	J	B	I6	I4	No code
220-250 VAC	220-250 VAC	220-240 VAC	100-127 VAC	200-250 VAC INDUSTRIAL	110-130 VAC INDUSTRIAL	Without plug
15 A TYPE E/F (CEE7/7 Unischuko)	13 A TYPE G (BS 1363)	10 A TYPE J (T12)	15 A TYPE B (NEMA 5-15P)	Type 013-6 16A-6h 3-pins (2P+PE)	Type 013-4 16A-4h 3-pins (2P+PE)	
						

**Ordering codes examples**

**MFNA1-045/23050/3** - basic version, modular design, voltage 220-240V AC 50/60Hz, 3 meter electric cable, without plug

**MFNAPC1-045/11050** - version with particle monitor kit, motor voltage 110-120V AC 50/60Hz, without electric cable and plug

**Filter elements for size 45 (45 l/min / 11.9 gpm)\***

\*Filter elements must be ordered separately

Type	Fineness (β=200)	Dirt-holding capacity according to ISO 16889 / water capacity	Code
EXAPOR®MAX	3 μm	1950 g	V7.1560-103
EXAPOR®MAX	5 μm	1980 g	V7.1560-03
EXAPOR®MAX	10 μm	1980 g	V7.1560-06
EXAPOR®AQUA	7 μm	590 g / 1520 ml	Y7.1560-05
EXAPOR®SPARK PROTECT	3 μm	1950g	Z7.1560-103

## MK1-PC: Particle monitor kit for self-extension from MFNA to MFNAPC

The off-line filter unit can be ordered in the basic or advanced version. The customer can expand the basic system with a particle monitor kit at any time. The set contains all the necessary elements needed for an upgrade of the unit, including: OPCom Particle monitor, 24VDC power supply, fittings, connectors etc.

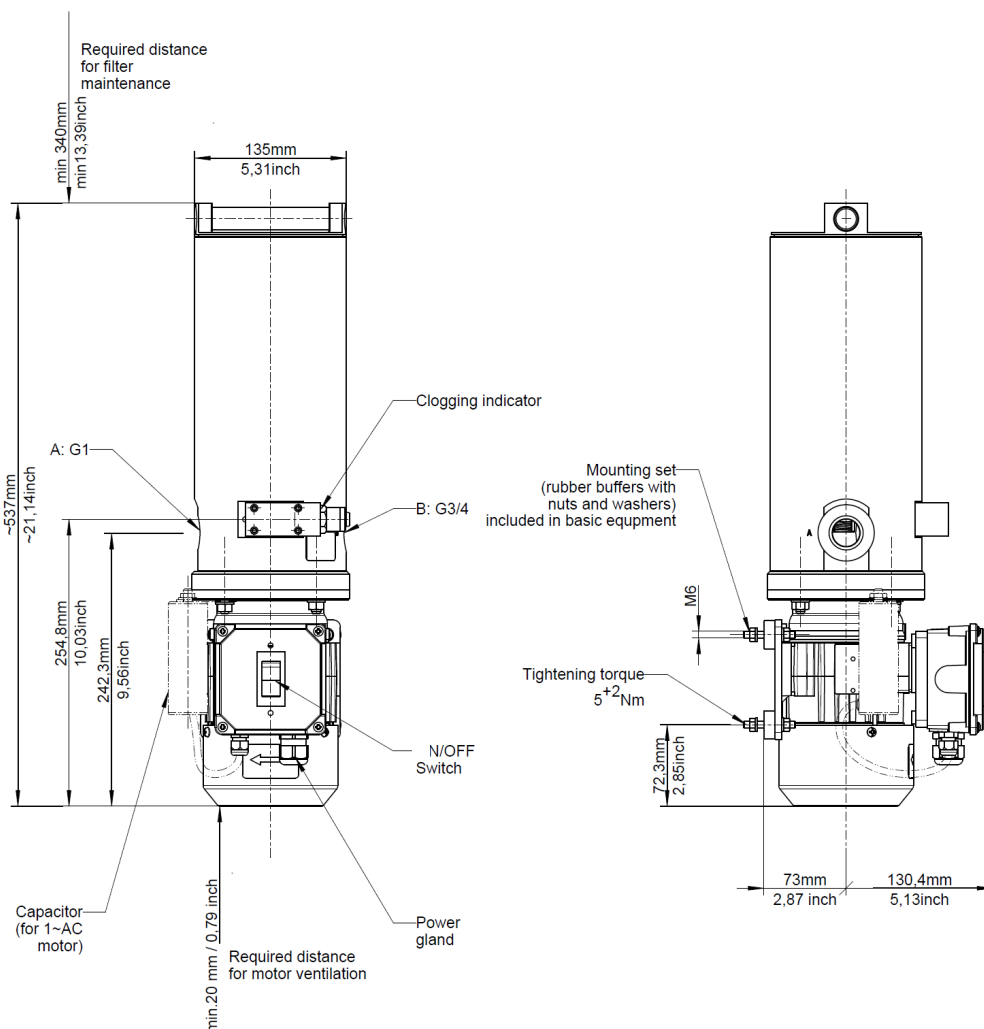
Ordering code:

Particle monitor kit for installation in:	Ordering code
MFNA1-016	MK1-PC-016
MFNA1-045	MK1-PC-045

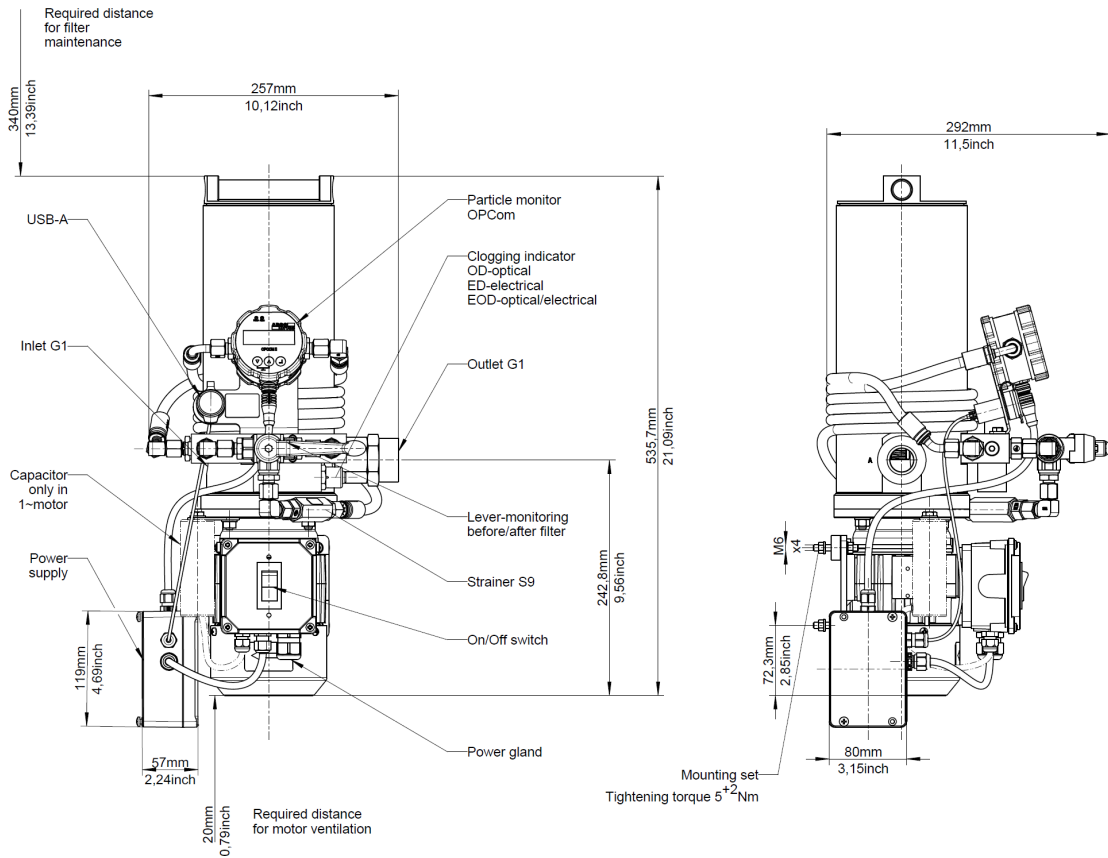


## Dimensions

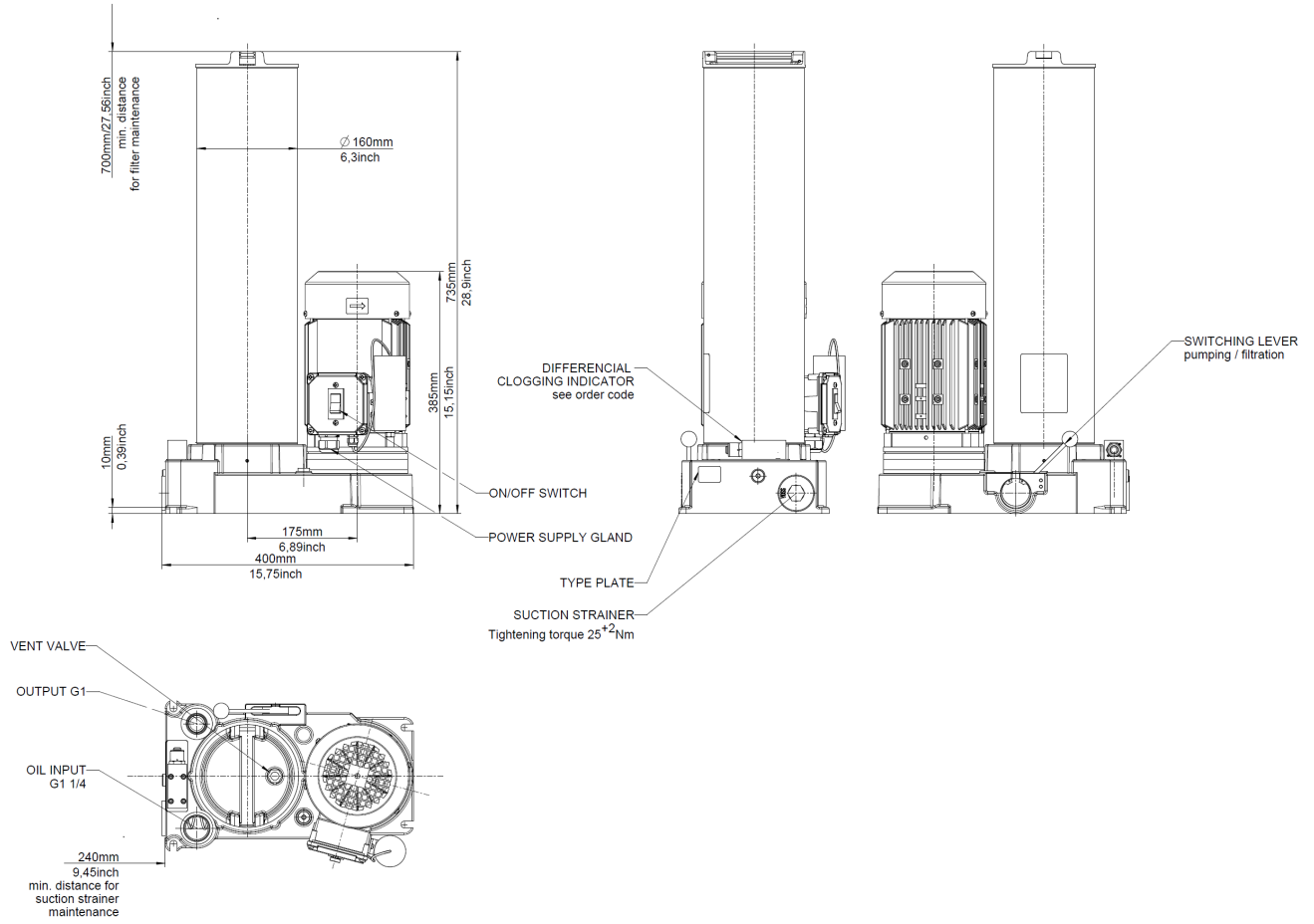
### MFNA1-016



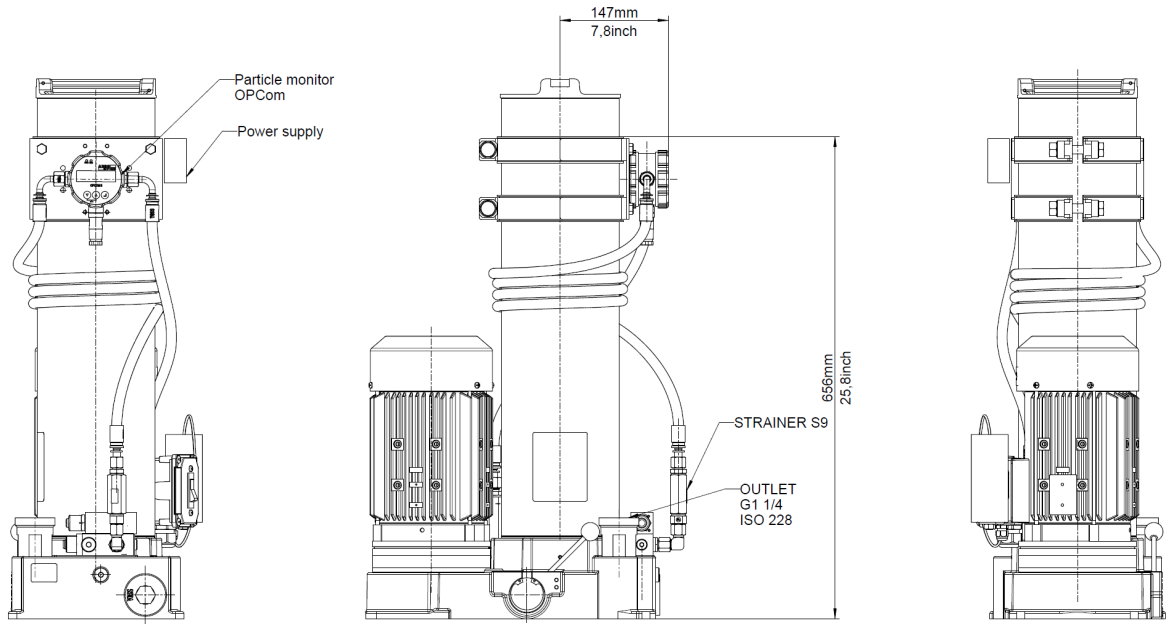
**MFNAPC1-016**



**MFNA1-045**



MFNA1PC-045





Mounting dimensions

MFNA1-016 / MFNAPC1-016	MFNA1-045 / MFNAPC1-045	Electric box (only in PC versions)

Hydraulic symbols

MFNA1-016	MFNAPC1-016	MFNA1-045	MFNAPC1-045

For size 16 (16 l/min / 4.2 gpm)

Description		Order code
Transparent hose, inner diameter 20 mm, length 2m - could be used as suction or return hose		MH20/2 (different length on request)
Transparent hose, inner diameter 25 mm, length 2m - could be used as suction or return hose		MH25/2 (different length on request)
Aluminum lance DN20 mm, length 0.4 m		LA 20X400
Aluminum lance DN20 mm, length 1.0 m		LA 20X1000
Aluminum lance DN25 mm, length 0.4 m		LA 25X400
Aluminum lance DN25 mm, length 1.0 m		LA 25X1000
Adapter G1 / 1 <sup>5</sup> / <sub>16</sub> -12 UN-2B (for suction port)		41148000
Adapter G <sup>3</sup> / <sub>4</sub> / 1 <sup>1</sup> / <sub>16</sub> -12 UN-2B (for return port)		34198300
Suction filter for hose DN20 (mounted at the free end of hose) 600 µm, Ø approx. 44 mm / 1.7 inch		FA 016.0301
Suction filter for hose DN25 (mounted at the end of hose) 600 µm, Ø approx. 44 mm / 1.7 inch		43804900
Suction strainer set for direct installation in the filter housing. Consists of: strainer + hose DN25 length 1.8 m + lance Ø 25 mm, length 0.4 m		FA-MSH/18/04

For size 45 (45 l/min / 11.9 gpm)

Description		Order code
Transparent hose, inner diameter 32 mm, length 3 m - could be used as suction hose		MH32/3 (different length on request)
Transparent hose, inner diameter 25 mm, length 3 m - could be used as return hose		MH25/3 (different length on request)
Aluminum lance DN25 mm, length 0.4 m		LA 25X400
Aluminum lance DN25 mm, length 1.0 m		LA 25X1000
Aluminum lance DN32 mm, length 0.4 m		LA 32X400
Aluminum lance DN32 mm, length 1.0 m		LA 32X1000
Suction strainer: screen element 280 µm (as a spare part, ordered in case when the fabrically mounted element has been destroyed)		S9.0417-13