

Filler breathers

HB 50 / HB 70 / HB 110 / HB 120 series

Air filters

AF 105 / AF 106 series

Level gauges

HL 91 / HB 02 series



RESERVOIR COMPONENTS

Apart from the main components such as pumps, motors, valves, cylinders, hoses and filters every complex plant with a hydraulic circuit has need for a reservoir containing fluid.

Reservoirs are often placed in uncomfortable positions especially on mobile machines where the reduction of obstructions is important.

Rationale suggests reservoirs be put in accessible positions and locations in order to periodically check the fluid through particular devices installed on them.

Reservoirs are normally built according to quantity of fluid circulating in some unit of time, often with bulkheads that allow heat-exchange along with speed reduction and partial pollutant settling.

Another important suggestion is the location of the fluid's outlet and inlet which need to be as far apart as possible.

As well as tank-mounted return line filters and suction line filters the other components that are usually directly connected to the reservoir are shown in this catalog as follows:

- Filler caps
- Filler caps with air breather
- Air breathers
- Visual level indicators

All these components are introduced with all their own characteristics and are essential to keep the fluid in optimal condition, which is most important to allow high and long-lasting performance of the entire plant.



HB 50 FILLER CAP WITH AIR BREATHER

TECHNICAL DATA

HB50 filler caps are used for air filtration and filling the reservoir.

The cap's cover is made of chromium plated steel while all the other components are zinc-plated steel.

For the air filtration 10 and 40 μm built-in-media are available.

They can also feature a basket to pre-filter the incoming oil avoiding macroparticle contamination and a level dipstick available in three different heights.

The tank connection can be made through flanges with screws, welding flanges or directly with a 1/4" GAS male thread. Another option is the chainlet that keeps the cap connected with the flange beneath.

- Chromium-plated steel cover
- Level dipstick on board

MATERIALS

Cap	Chromium-plated steel
Basket	Zinc-plated steel
Level dipstick	Zinc-plated steel
Fixing flange with screws	Zinc-plated steel
Welding flange	Steel
Chainlet	Zinc-plated steel
Seals	Buna
Filtering media	Polyurethane

FLUID COMPATIBILITY

Conforming to ISO 2943 (Norm ISO 6743/4)

Mineral Oils	HH - HL - HM - HR - HV - HG
Water emulsions	HFAE - HFAS
Glycol water	HFC
Synthetic fluids	HS - HFDR - HFDU - HFDS

Special versions compatible with the use of different fluids are available.

FLOW

10 μm air filter	66.0 US gpm (250 l/min)
40 μm air filter	75.3 US gpm (285 l/min)

WEIGHT

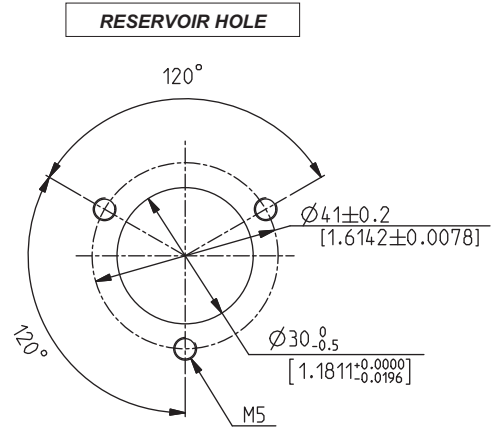
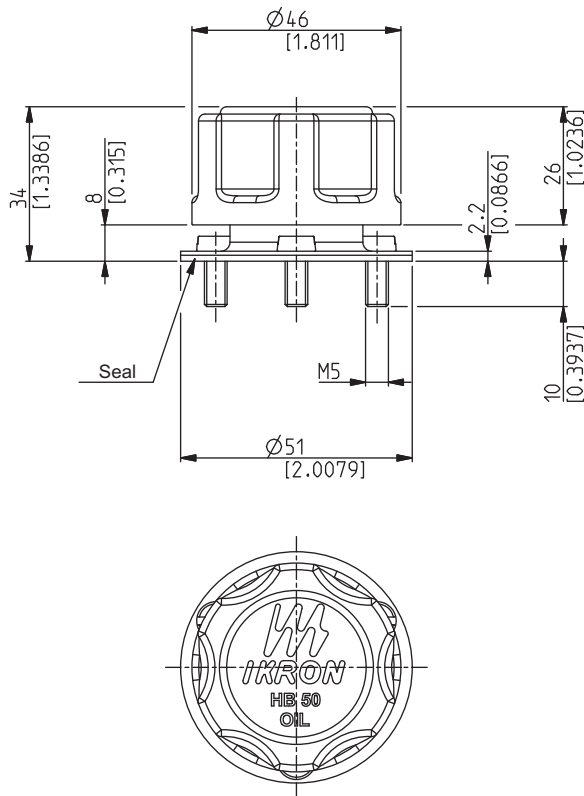
0.15 ÷ 0.20 lbs (0,07 ÷ 0,09 Kg)

WORKING TEMPERATURE

-22 ÷ 195 °F (-30 ÷ 90 °C)

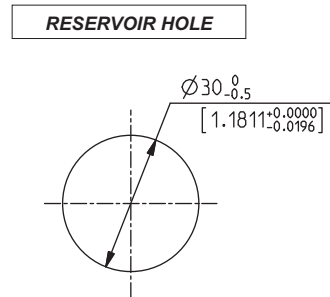
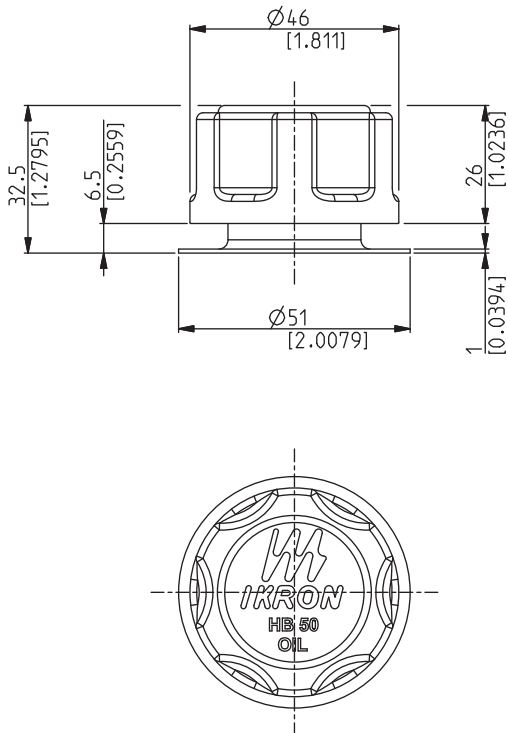
01/09.2011

CAP DIMENSIONS - 05 FIXING WITH SCREWS



ICAT_024_001_HB50

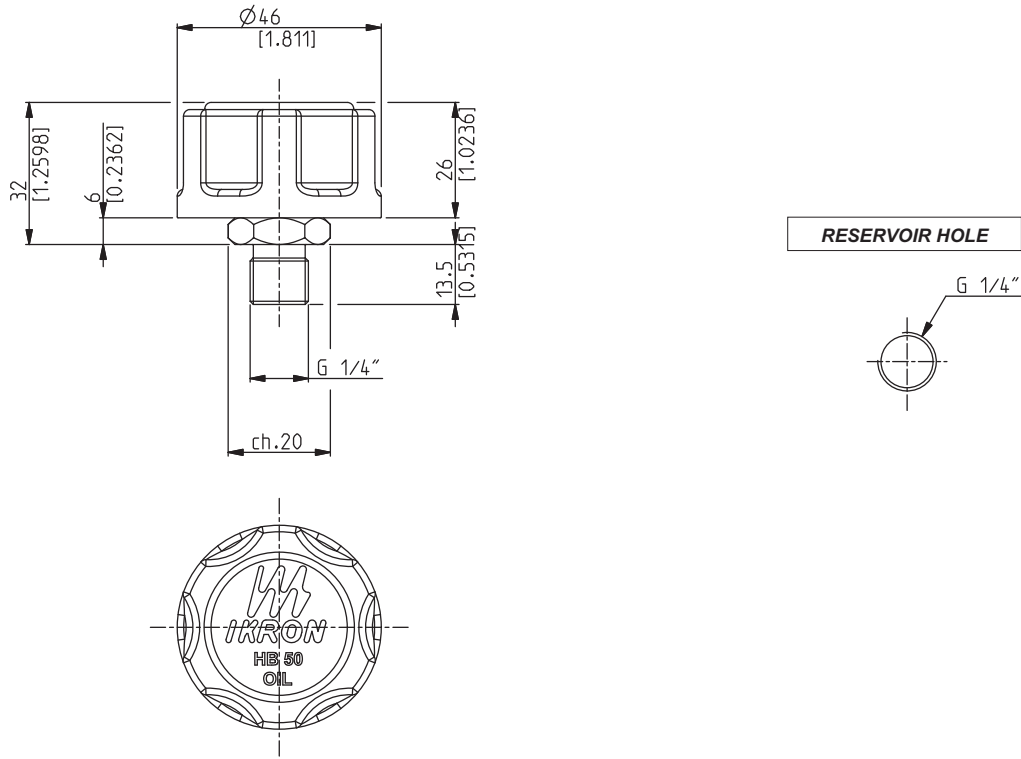
CAP DIMENSIONS - 10 FIXING TO BE WELDED



ICAT_024_002_HB50

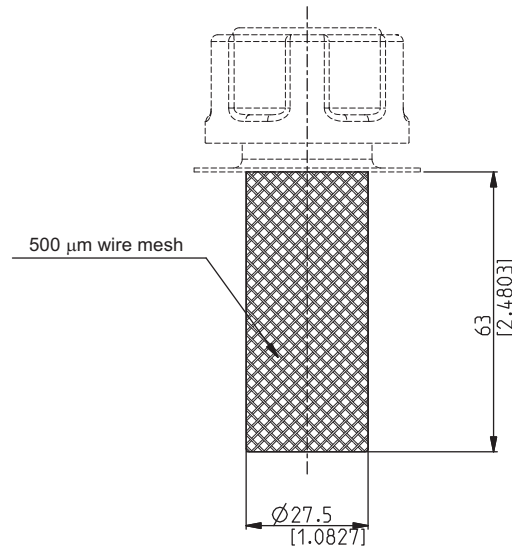
01/09.2011

CAP DIMENSIONS - GB 1/4" GAS MALE THREAD FIXING



ICAT_024_003_HB50

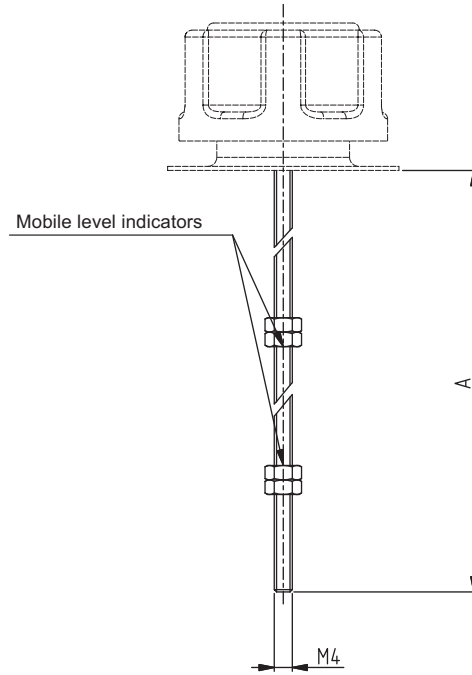
BASKET DIMENSIONS - G OPTION



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ICAT_024_004_HB50

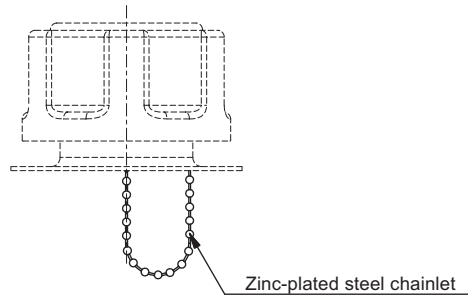
LEVEL DIPSTICK DIMENSIONS - M / N / P OPTIONS



Code	A	
	mm	in
M	200	7.8740
N	400	15.7480
P	600	23.6220

ICAT_024_005_HB50

CHAINLET - OPTION 2



01/09.2011

ICAT_024_006_HB50

ASSEMBLY INSTRUCTIONS

HB50 caps provide 3 different connections:

- **Connection through a plane flange with fixing screws**

Put the seal between the fixing flange and the reservoir and then tighten the two components up with the three M5 screws. Complete the mounting by including the basket and by screwing the cap until it is locked.

- **Connection through a plane flange to be welded**

Put the fixing flange on the tank making sure it is axially lined up with the dedicated hole, then weld the circumference of the flange. Complete the mounting by including the basket and by screwing the cap until it is locked.

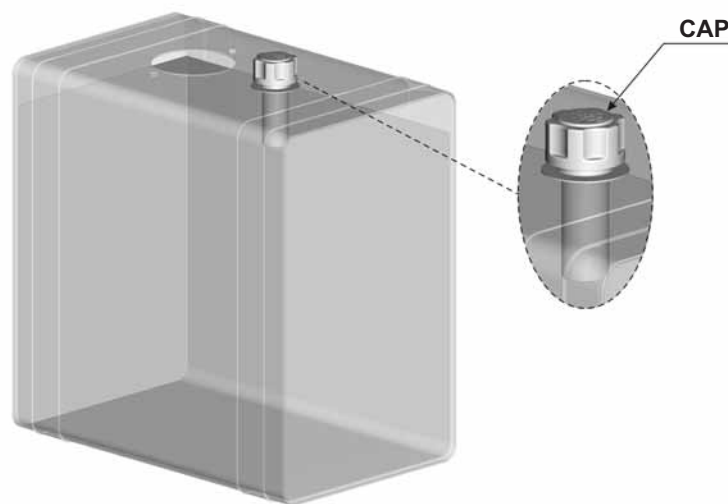
- **Connection through the 1/4" GAS male thread.**

Put a sufficient quantity of Teflon on the male thread of the cap and then tighten until it is locked.

Before connecting make sure there are no burrs in the HB50 cap mounting seat.

FILTER ELEMENT REPLACEMENT

In order to guarantee an efficient air exchange in the tank it is necessary to periodically replace the cap containing the filtering element by following the machine's instruction manual.



01/09.2011

HOW TO ORDER AN HB 50 FILLER CAP

1	2	3	4	5
HB 50	-	A	-	05
				-
			G	-
				1

1	Cap	CODE
	Filler cap	HB 50

2	Air breather	CODE
	Without	0
	With air breather and 10 [μ m] filter	A
	With air breather and 40 [μ m] filter	B

3	Fixing	CODE
	Flange with screws	05
	Flange to be welded	10
	1/4" GAS male thread	GB

4	Cap options	CODE
	Without	E
	Basket	G
	Level dipstick 7.8740 in (200 mm) long	M
	Level dipstick 15.7480 in (400 mm) long	N
	Level dipstick 23.6220 in (600 mm) long	P
	Custom level dipsticks with different heights are available on request.	

5	Options	CODE
	Without	1
	Internal chainlet	2

- Standard
 On request

HB 70 FILLER CAP WITH AIR BREATHER

TECHNICAL DATA

HB 70 filler caps are used for air filtration and filling the reservoir.

The cap's cover is made of chromium plated steel while all the other components are zinc-plated steel.

For the air filtration 10 and 40 μm built-in-media are available, in addition to a pressurization device option useful to ease the pump's suction and to avoid the creation of foam in the tank.

They can also feature:

- basket, to pre-filter the incoming oil avoiding macro-particle contamination,
- Level dipstick available in three different heights,
- Antisplash device to safeguard the filtering element.

The tank connection can be made through flanges with screws, welding flanges or directly with a 3/4" GAS male thread.

There are also two other options: the security element and a steel chainlet that keeps the cap connected with the flange beneath.

- Chromium-plated steel cap
- Pressurization valve
- Antisplash device

MATERIALS

Cap	Chromium-plated steel
Basket	Zinc-plated steel
Level dipstick	Zinc-plated steel
Antisplash	Nylon
Fixing flange with screws	Zinc-plated steel
Welding flange	Steel
Fixing extension	Zinc-plated steel
Chainlet	Zinc-plated steel
Security element arrangement	Zinc-plated steel
Seals	Buna
Filtering media	Polyurethane

FLOW

10 μm air filter	118.9 US gpm (450 l/min)
40 μm air filter	126.8 US gpm (480 l/min)

WEIGHT

0,51 ÷ 1,43 lbs (0,23 ÷ 0,65 Kg)

WORKING TEMPERATURE

-22 ÷ 195 °F (-30 ÷ 90 °C)

FLUID COMPATIBILITY

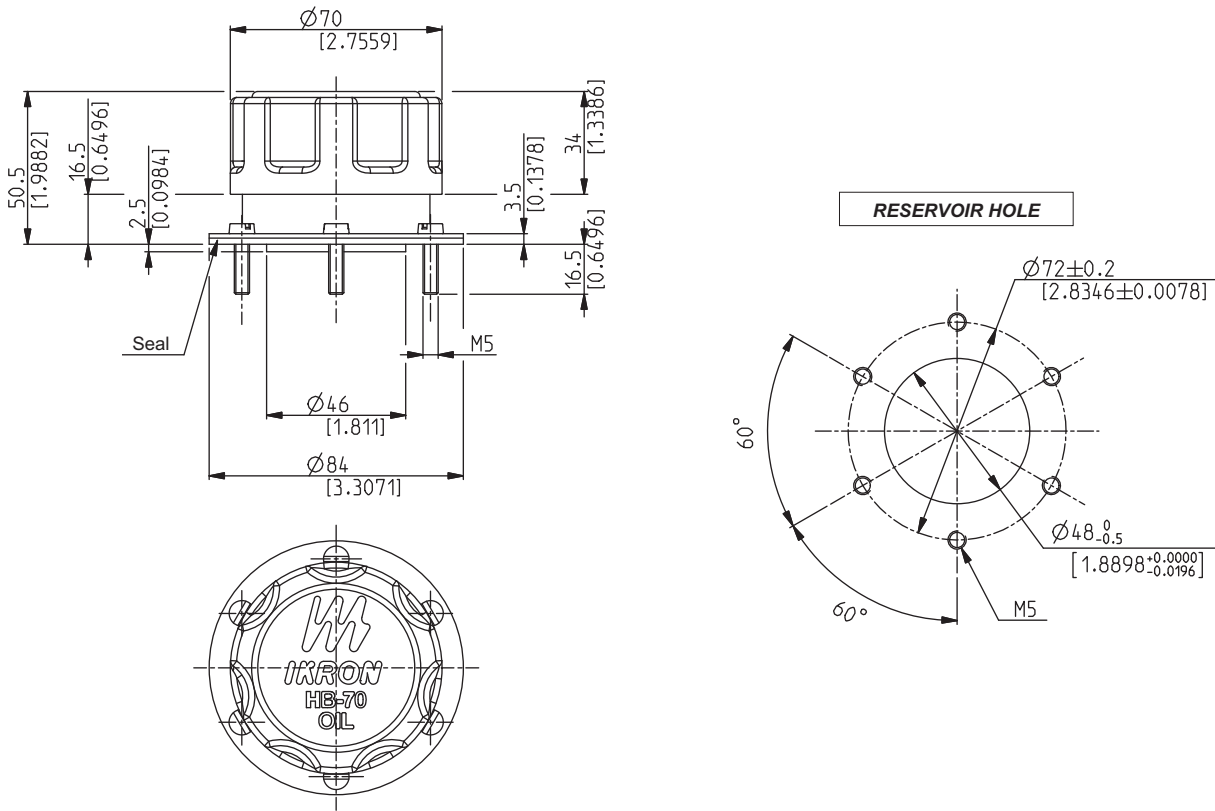
According to ISO 2943 (Norm ISO 6743/4)

Mineral oils	HH - HL - HM - HR - HV - HG
Water emulsions	HFAE - HFAS
Glycol water	HFC
Synthetic fluids	HS - HFDR - HFDU - HFDS

Special versions compatible with the use of different fluids are available.

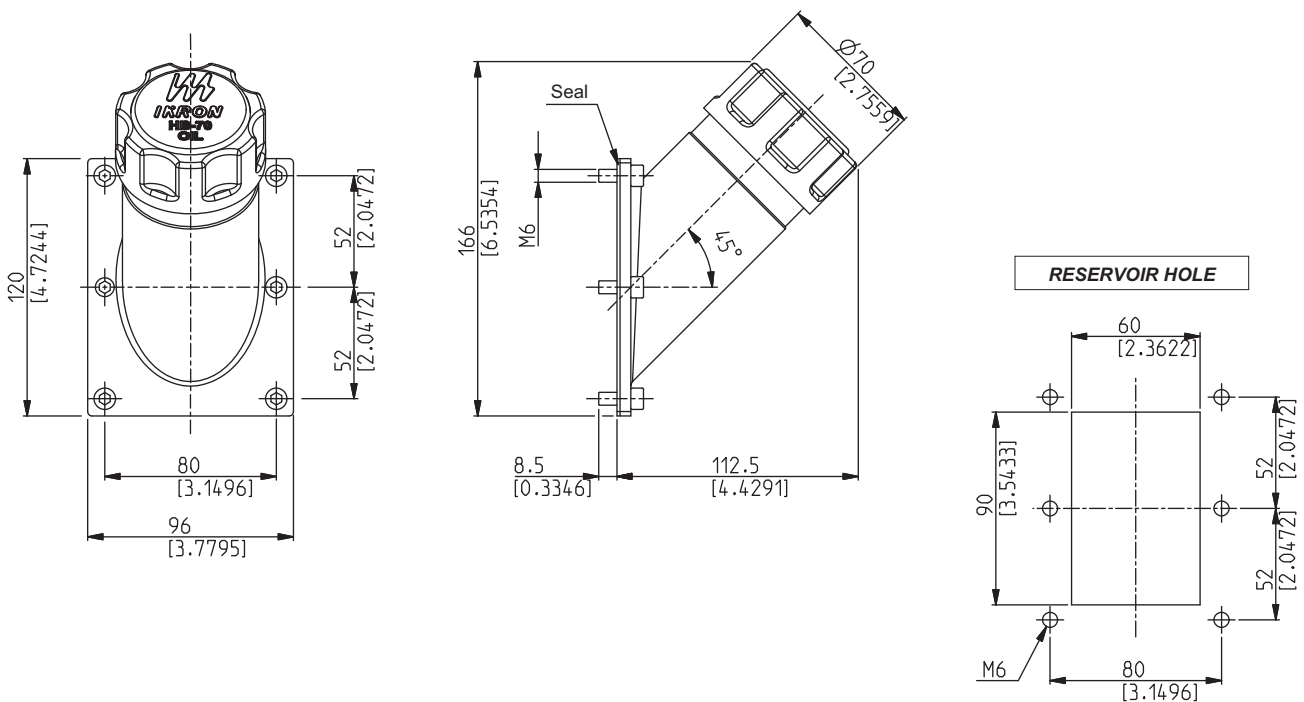
01/09.2011

CAP DIMENSIONS - 05 FIXING WITH SCREWS



ICAT_024_007_HB70

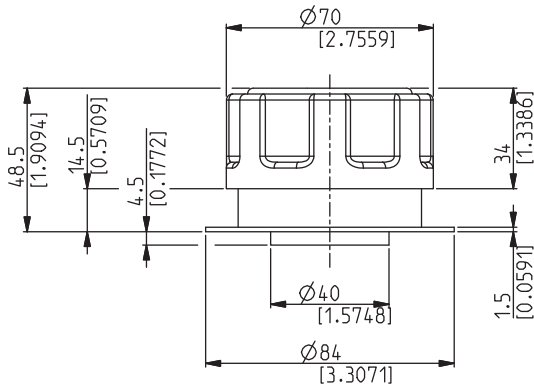
CAP DIMENSIONS - 08 FIXING WITH SCREWS



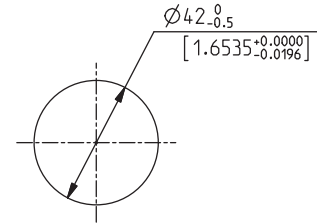
ICAT_024_009_HB70

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CAP DIMENSIONS - 10 FIXING TO BE WELDED

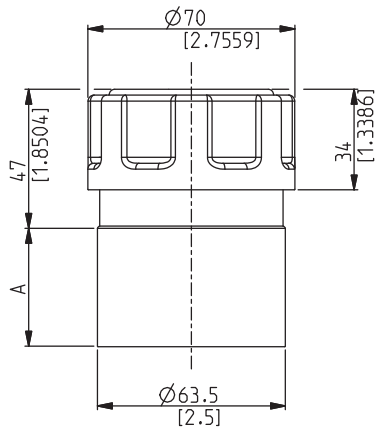


RESERVOIR HOLE

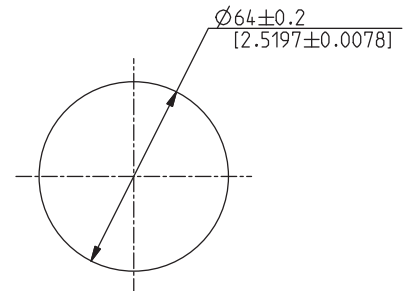


ICAT_024_008_HB70

CAP DIMENSIONS - 15 / 20 / 25 / 30 FIXINGS TO BE WELDED



RESERVOIR HOLE

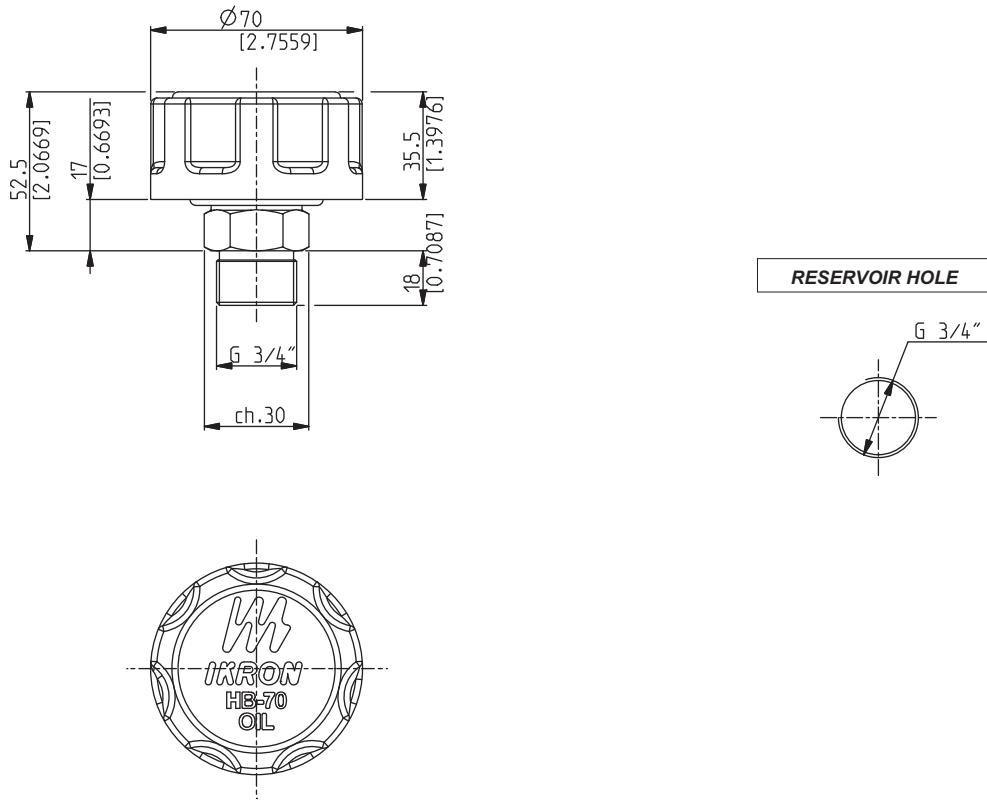


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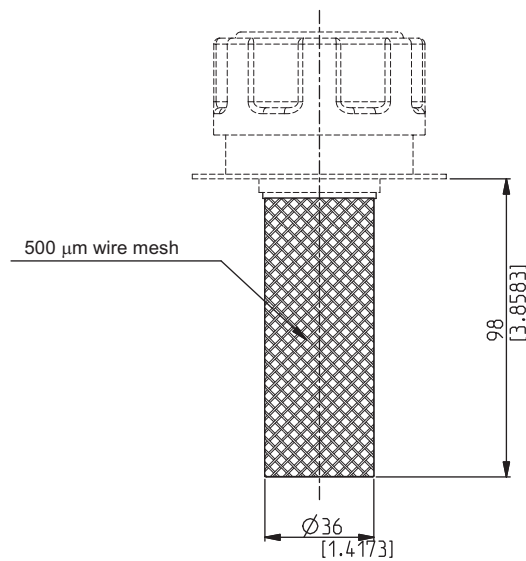
ICAT_024_010_HB70

Code	A	
	mm	in
15	40	1.5748
20	65	2.5590
25	80	3.1496
30	135	5.3150

CAP DIMENSIONS - GE FIXING WITH 3/4" GAS MALE THREAD



BASKET DIMENSIONS - G OPTION

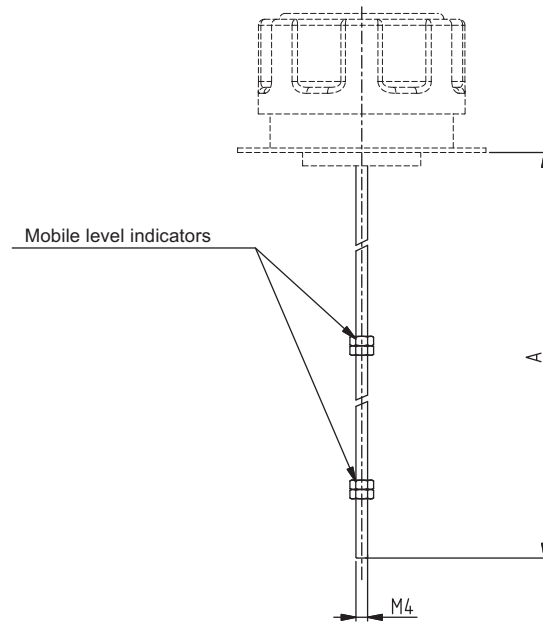


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ICAT_024_012_HB70

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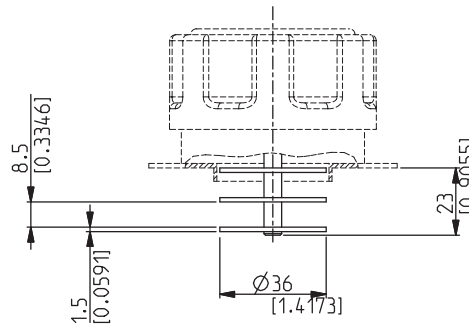
LEVEL DIPSTICK DIMENSIONS - M / N / P OPTIONS



Code	A	
	mm	in
M	200	7.8740
N	400	15.7480
P	600	23.6220

ICAT_024_013_HB70

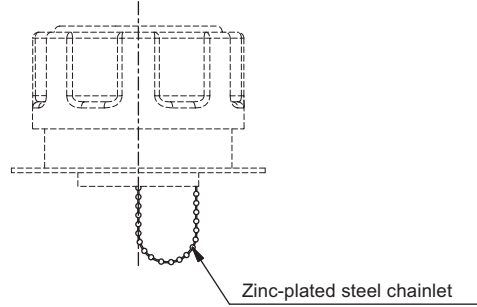
ANTISPLASH DEVICE - S OPTION



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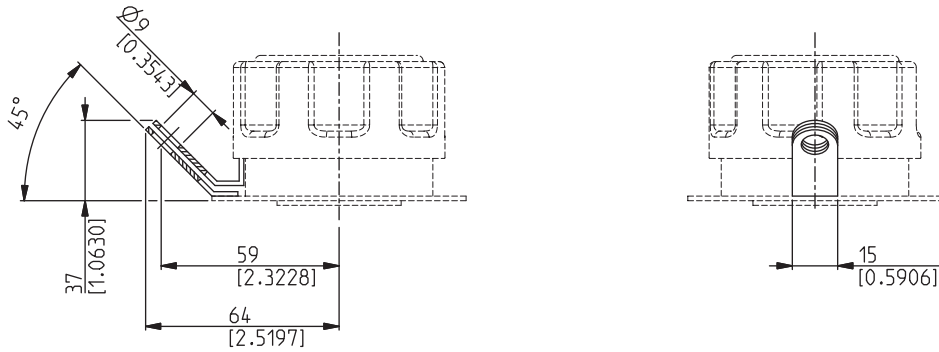
ICAT_024_014_HB70

CHAINLET - OPTION 2



ICAT_024_015_HB70

SECURITY ELEMENT ARRANGEMENT - OPTION 3



ICAT_024_016_HB70

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ASSEMBLY INSTRUCTIONS

HB 70 caps provide 5 different connections:

- **Connection through a plane flange with fixing screws**

Put the seal between the fixing flange and the reservoir and then tighten the two components up with the six M5 screws equipped. Complete the mounting by including the basket and by screwing the cap until it is locked.

- **Connection through a 45° flange with fixing screws**

First line the fixing flange up with the seal and then lock the two components to the tank using the six M5 screws. Complete the mounting by including the basket and by screwing the cap until it is locked.

- **Connection through a plane flange to be welded**

Put the fixing flange on the tank making sure it is axially lined up with the dedicated hole, then weld the circumference of the flange. Complete the mounting by including the basket and by screwing the cap until it is locked.

- **Connection through an extension to be welded**

Insert the extension in the dedicated seat of the tank and weld the entire circumference. Complete the mounting by including the basket and by screwing the cap until it is locked.

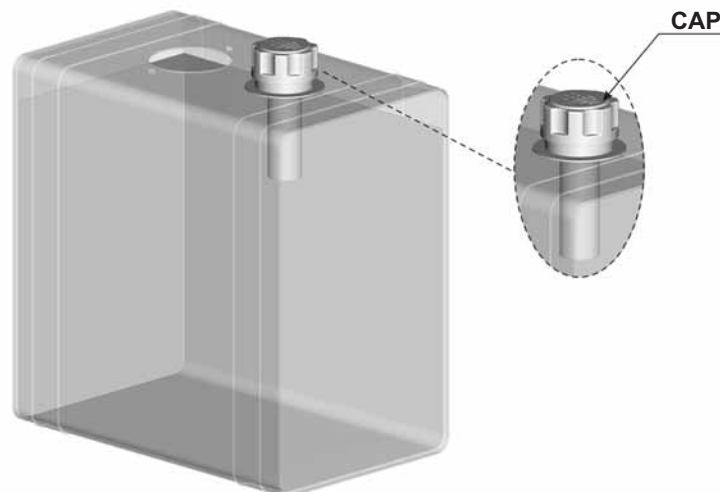
- **Connection through a 3/4" GAS male thread.**

Put a sufficient quantity of Teflon on the male thread of the cap and then start tightening until it is locked.

Before connecting make sure there are no burrs in the HB70 cap mounting seat.

FILTER ELEMENT REPLACEMENT

In order to guarantee an efficient air exchange in the tank it is necessary to periodically replace the cap containing the filtering element by following the machine's instruction manual.



01/09.2011

HOW TO ORDER AN HB 70 FILLER CAP

1	2	3	4	5
HB 70	-	A	-	05
			-	G
				-
				1

1	Cap	CODE
	Filler cap	HB 70

2	Air breather	CODE
	Without	0
	With air breather and 10 [µm] filter	A
	With air breather and 40 [µm] filter	B
	With 0,4 bar pressurized breather and 10 [µm] filter	C
	With 0,4 bar pressurized breather and 40 [µm] filter	D

3	Fixing	CODE
	Flange with screws	05
	45° flange with screws	08
	Welding flange	10
	Extension to be welded 1.5748 in (40 mm) long	15
	Extension to be welded 2.5590 in (65 mm) long	20
	Extension to be welded 3.1496 in (80 mm) long	25
	Extension to be welded 5.3150 in (135 mm) long	30
	3/4" GAS male thread	GE

4	Cap options	CODE
	Without	E
	Basket	G
	Level dipstick 7.8740 in (200 mm) long	M
	Level dipstick 15.7480 in (400 mm) long	N
	Level dipstick 23.6220 in (600 mm) long	P
	Antisplash	S

Custom level dipsticks with different heights are available on request.

5	Options	CODE
	Without	1
	Internal chainlet	2
	Security element arrangement	3

Standard

Request

HB 110 FILLER CAP WITH AIR BREATHER

TECHNICAL DATA

HB 110 filler caps are used for air filtration and filling the reservoir.

These caps can filter air up to 369.8 US gpm (1400 l/min) and can have an antislash device, with small axial encumbrance and a reinforced fiberglass nylon-made housing.

Versions with level dipsticks, clogging indicators and outer antipollution devices are available.

- Small encumbrance
- Corrosion-proof
- Antislash device
- Antipollution device
- Level dipstick

MATERIALS

Cap	Reinforced nylon
Tank	Reinforced nylon
Basket	Nylon
Seal	Buna
Filtering media	Inorganic micro-fibre glass
	Cellulose

FLUIDS COMPATIBILITY

According to ISO 2943 (Norm ISO 6743/4)

Mineral oils	HH - HL - HM - HR - HV - HG
Water emulsions	HFAE - HFAS
Glycol water	HFC
Synthetic fluids	HS - HFDR - HFDU - HFDS

Special versions compatible with the use of different fluids are available.

FLOW

3 µm absolute air filter	224.5 US gpm (850 l/min)
5 µm air filter	290.6 US gpm (1100 l/min)
10 µm air filter	369.8 US gpm (1400 l/min)

WEIGHT

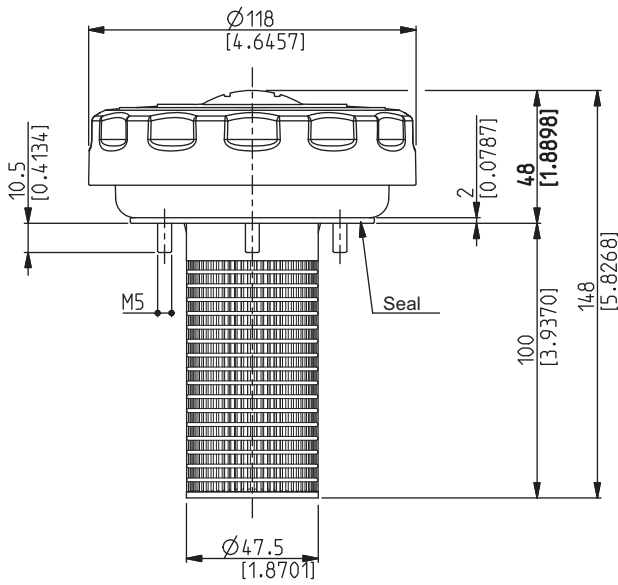
0.44 lbs (0,2 Kg)

WORKING TEMPERATURE

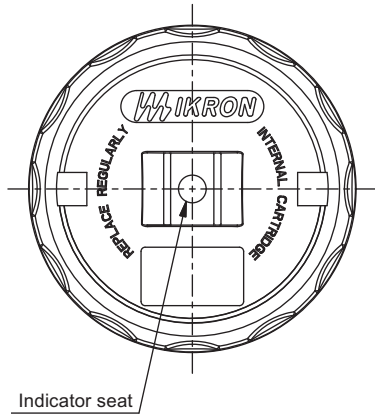
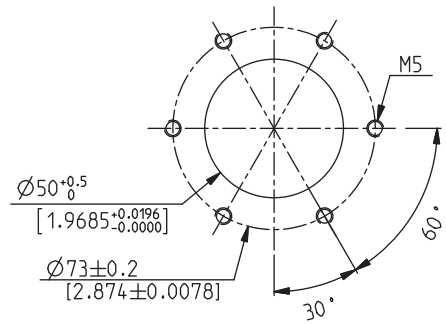
-22 ÷ 195 °F (-30 ÷ 90 °C)

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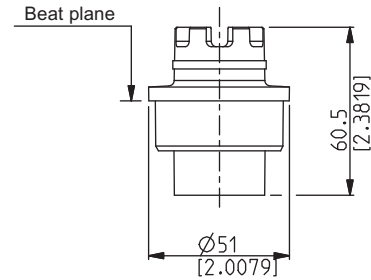
DIMENSIONS



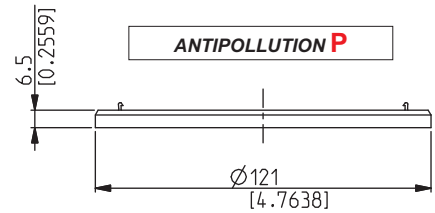
RESERVOIR HOLE



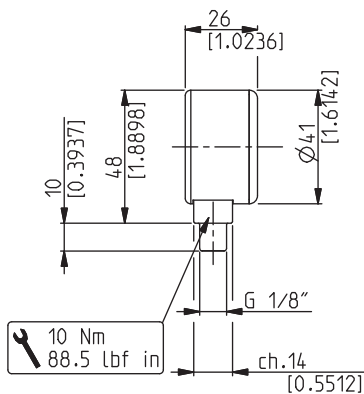
ANTISPLASH A



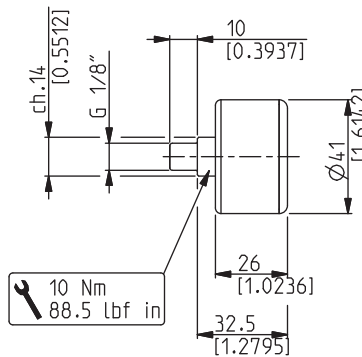
ANTIPOLLUTION P



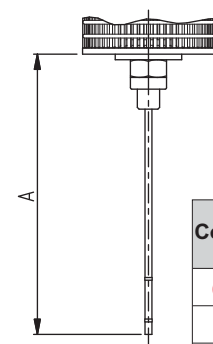
MANOMETER M



MANOMETER N



LEVEL DIPSTICKS Q/R/S



Code	A	
	mm	in
Q	100	3.9370
R	200	7.8740
S	400	15.7480

ICAT_024_017_HB110

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ASSEMBLY INSTRUCTIONS

HB 110 caps are contained in their own packaging.

When mounting please proceed as follows:

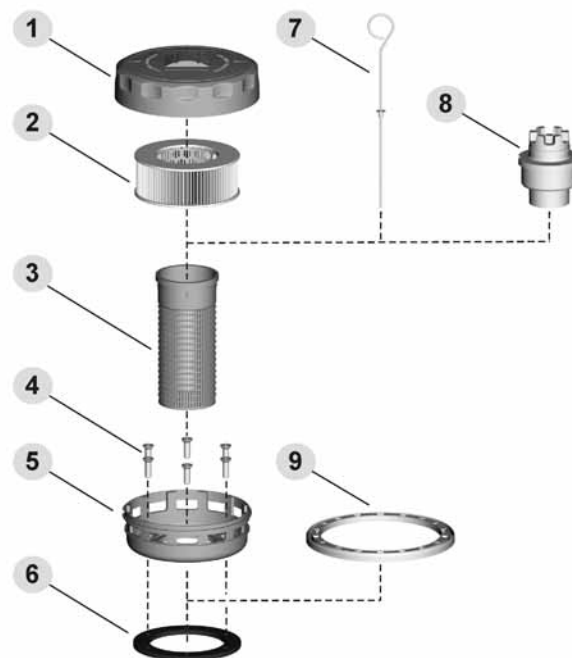
- Open the package and make sure all the components are there,
- Make sure there are no burrs in the cap seat,
- Unscrew the cover (1),
- Take off the filtering element (2) placed in the cap's tank (5),
- Put the tank (5) inside of the antipollution device (9) making sure it is locked on the lower border of the tank through the dedicated inserts,
- Put the basket (3) in the cap's tank (5) making sure it is locked through the dedicated inserts,
- Place the seal (6) in the tank positioning the fixing holes in the correct way,
- Position the tank (5) with its basket (3) on the seal (6) positioning the fixing holes in the correct way,
- Lock the cap's tank (5) to the reservoir using the 6 screws (4) provided,
- Fill the reservoir to the desired point,
- Thoroughly clean the tank (5) from oil,
- Insert the level dipstick (7) inside of the basket (3),
- Insert the antispash device (8) inside of the basket (3) until reaching the beat of the $\varnothing 51\text{mm}$ (see page 16),
- Insert the element (2) inside of the tank centering it on the basket's neck (3),
- If there is an indicator screw it in the dedicated seat of the cover (1) using fluid Teflon.

FILTER ELEMENT REPLACEMENT

In order to guarantee an efficient air exchange in the tank it is necessary to periodically replace the cap containing the filtering element by following the machine's instructions manual or when the indicator indicates that the pressure is more than 0,2 bar.

Proceed as follows:

- Unscrew the cover (1),
- Take off the clogged element (2) inside of the cap's tank (5),
- Clean the cap's tank with care (5),
- Insert the new element (2) inside of the tank centering it on the basket's neck (3),
- Screw the cover (1) on the cap's tank (5) and tighten for 1/4 turn after the element makes in contact with it.



Pos.	Description
1	Cover
2	Filtering element
3	Basket
4	Fixing screws
5	Cap's tank
6	Seal
7	Level dipstick
8	Antispash device
9	Antipollution device

01/09.2011

HOW TO ORDER AN HB 110 CAP

1	2	3	4	5	6	7
HB 110	-	SP010	-	XN	-	G

1	Cap	CODE
	Cap	HB 110

2	Degree of filtration	CODE
	Micro-fibre glass 3 [µm]	FG003
	Cellulose 5 [µm]	SP005
	Cellulose 10 [µm]	SP010

3	Indicators arranged	CODE
	Without	XN
	Arranged on the cover	XD

4	Indicators	CODE
	Without	G
	Rear manometer	M
	Radial manometer	N

5	Antisplash	CODE
	Without	O
	With Antisplash device	A

6	Antipollution	CODE
	Without	S
	With Antipollution device	P

7	Level dipstick	CODE
	Without	Z
	Level dipstick 3.9370 in (100 mm) long	Q
	Level dipstick 7.8740 in (200 mm) long	R
	Level dipstick 15.7480 in (400 mm) long	S

Standard
 On request

HOW TO ORDER AN HEK 110 ELEMENT

1	2
HEK 110	-
	SP010

1	Element	CODE
	Element	HEK 110

2	Degree of filtration	CODE
	Micro-fibre glass 3 [µm]	FG003
	Cellulose 5 [µm]	SP005
	Cellulose 10 [µm]	SP010

Standard
 On request

HB 120 FILLER CAP WITH AIR BREATHER

TECHNICAL DATA

HB 120 filler caps are used for air filtration and filling the reservoir.

These caps can filter air up to 475.5 US gpm (1800 l/m) and can have an antisplash device, with small axial encumbrance and a reinforced fiberglass nylon-made housing.

Versions with level dipsticks, clogging indicators and outer antipollution devices are available.

- Corrosion-proof
- Antisplash device
- Antipollution device
- Level dipsticks

MATERIALS

Cap	Reinforced nylon
Tank	Reinforced nylon
Basket	Nylon
Seal	Buna
Filtering media	Inorganic micro-fibre glass
	Cellulose

FLUIDS COMPATIBILITY

In accordance with ISO 2943 (Norm ISO 6743/4)

Mineral oils	HH - HL - HM - HR - HV - HG
Water emulsions	HFAE - HFAS
Glycol water	HFC
Synthetic fluids	HS - HFDR - HFDU - HFDS

Special versions compatible with the use of different fluids are available.

FLOW

3 µm absolute air filter	290.6 US gpm (1100 l/min)
5 µm air filter	369.8 US gpm (1400 l/min)
10 µm air filter	475.5 US gpm (1800 l/min)

WEIGHT

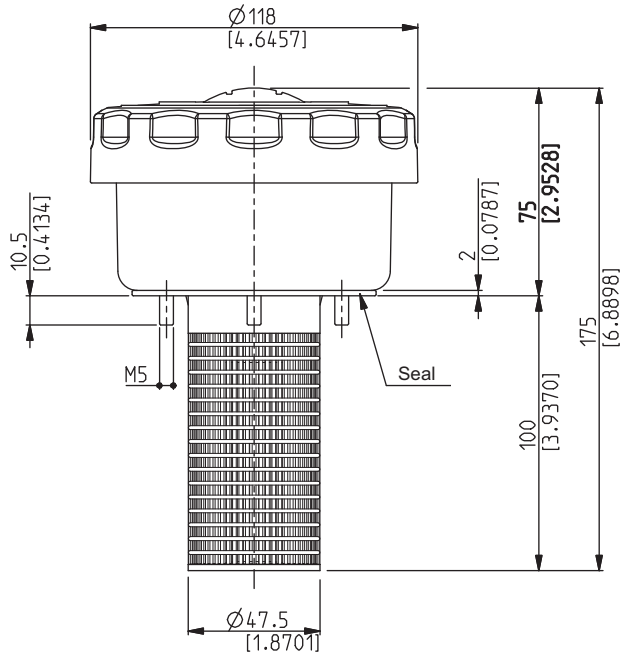
0.55 lbs (0,25 Kg)

WORKING TEMPERATURE

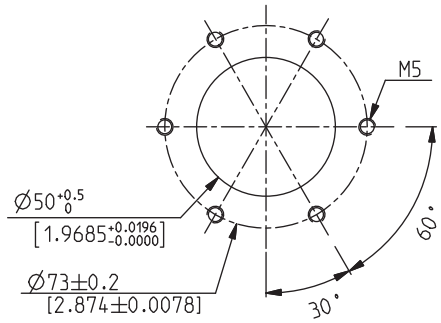
-22 ÷ 195 °F (-30 ÷ 90 °C)

01/09.2011

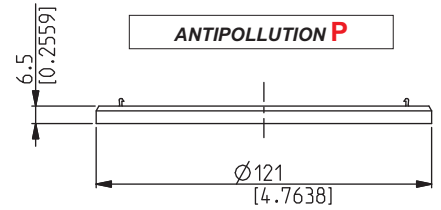
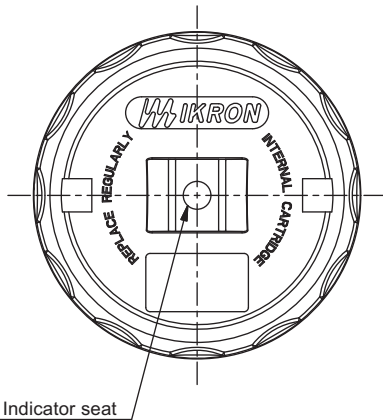
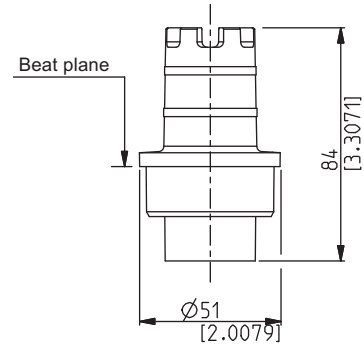
DIMENSIONS



RESERVOIR HOLE

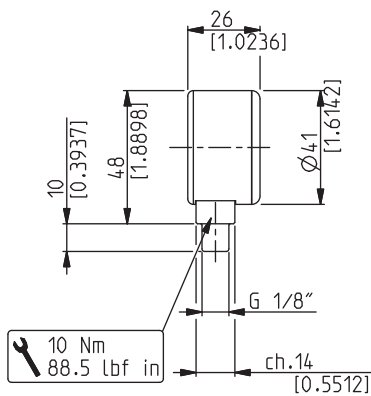


ANTISPLASH A

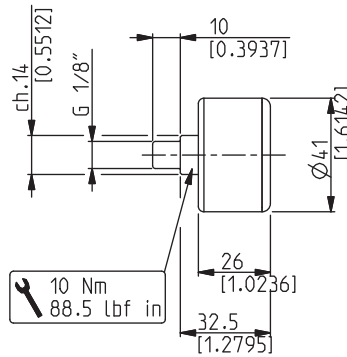


ANTIPOLLUTION P

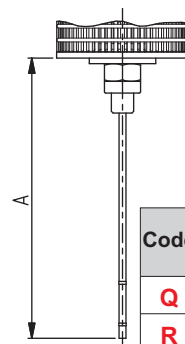
MANOMETER M



MANOMETER N



LEVEL DIPSTICKS Q/R/S



Code	A	
	mm	in
Q	100	3.9370
R	200	7.8740
S	400	15.7480

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ASSEMBLY INSTRUCTIONS

HB 120 caps are contained in their own packaging.

When mounting please proceed as follows:

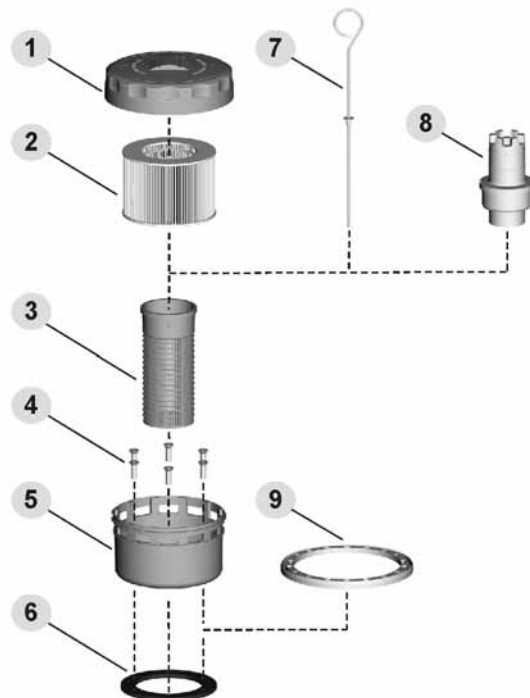
- Open the package and make sure all the components are there,
- Make sure there are no burrs in the cap seat,
- Unscrew the cover (1),
- Take off the filtering element (2) placed in the cap's tank (5),
- Put the tank (5) inside of the antipollution device (9) making sure it is locked on the lower border of the tank through the dedicated inserts,
- Put the basket (3) in the cap's tank (5) making sure it is locked through the dedicated inserts,
- Place the seal (6) in the tank positioning the fixing holes in the correct way,
- Position the tank (5) with its basket (3) on the seal (6) positioning the fixing holes in the correct way,
- Lock the cap's tank (5) to the reservoir using the 6 screws (4) provided,
- Fill the reservoir to the desired point,
- Thoroughly clean the tank (5) from oil,
- Insert the level dipstick (7) inside of the basket (3),
- Insert the antisplash device (8) inside of the basket (3) until reaching the beat of the $\varnothing 51\text{mm}$ (see page 16),
- Insert the element (2) inside of the tank centering it on the basket's neck (3),
- If there is an indicator screw it in the dedicated seat of the cover (1) using fluid Teflon.

FILTER ELEMENT REPLACEMENT

In order to guarantee an efficient air exchange in the tank it is necessary to periodically replace the cap containing the filtering element by following the machine's instructions manual or when the indicator indicates that the pressure is more than 0,2 bar.

Proceed as follows:

- Unscrew the cover (1),
- Take off the clogged element (2) inside of the cap's tank (5),
- Clean the cap's tank with care (5),
- Insert the new element (2) inside of the tank centering it on the basket's neck (3),
- Screw the cover (1) on the cap's tank (5) and tighten for 1/4 turn after the element makes in contact with it.



Pos.	Description
1	Cover
2	Filtering element
3	Basket
4	Fixing screws
5	Cap's tank
6	Seal
7	Level dipstick
8	Antisplash device
9	Antipollution device

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HOW TO ORDER AN HB 120 CAP

1	2	3	4	5	6	7
HB 120	- SP010	- XN	- G	- O	- S	- Z

1	Cap	CODE
	Cap	HB 120

2	Degree of filtration	CODE
	Micro-fibre glass 3 [μ m]	FG003
	Cellulose 5 [μ m]	SP005
	Cellulose 10 [μ m]	SP010

3	Indicators arranged	CODE
	Without	XN
	Arranged on the cover	XD

4	Indicators	CODE
	Without	G
	Rear manometer	M
	Radial manometer	N

5	Antisplash	CODE
	Without	O
	With Antisplash device	A

6	Antipollution	CODE
	Without	S
	With Antipollution device	P

7	Level dipstick	CODE
	Without	Z
	Level dipstick 3.9370 in (100 mm) long	Q
	Level dipstick 7.8740 in (200 mm) long	R
	Level dipstick 15.7480 in (400 mm) long	S

Standard
 On request

HOW TO ORDER AN HEK 120 ELEMENT

1	2
HEK 120	- SP010

1	Element	CODE
	Element	HEK 120

2	Degree of filtration	CODE
	Micro-fibre glass 3 [μ m]	FG003
	Cellulose 5 [μ m]	SP005
	Cellulose 10 [μ m]	SP010

Standard
 On request

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Suction filters

HF 410
HF 412
HF 431
HF 434
HF 437

Tank mounted return line filters

HF 502
HF 508
HF 547
HF 554
HF 570
HF 575
HF 578

In line filters Spin-On

HF 620
HF 625
HF 650

In line medium and high pressure filters

HF 690
HF 705
HF 710
HF 725
HF 735
HF 745
HF 760
HF 761

Accessories

Filler breathers
Air filters
Level and temperature gauges
Pressure gauges
Pressure/vacuum gauges
Clogging indicators



IKRON S.r.l.

Via Prampolini, 2 - 43044 Lemignano di Collecchio - Parma - Italy

Tel.: + 39 0521 304911 - Fax: + 39 0521 304900

Videoconferencing IP

www.ikron.it

E-mail: info@ikron.it



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