

## **G** SET Series – Manifold Cartridge Filters

Manifold cartridge filters are installed into a threaded cavity that is machined in the customer's manifold. More than one SET may be installed in the manifold, if required for capacity. Cavity drawings are provided for easy implementation and installation. A SET filter can be provided with an element or without an element (*existing installations*). A differential pressure clogging indicator, to warn of high upstream pressure (*element clogged*), can be attached to the manifold as well (*indicator cavity drawings available upon request*).

# SET SERIES FILTERS – LOW PRESSURE

## NF Set Series

Manifold Cartridge Filters

360 psi • up to 450 gpm



Manifold cavity is only for representation and not HYDAC's scope of supply

### Features

- Non-welded housing design reduces stress concentrations and prevents fatigue failure.
- Aluminum alloy is water tolerant - anodization is not required for water based fluids (HWBF).
- O-ring seals are used to provide positive, reliable sealing. Choice of O-ring materials (*nitrile rubber, fluorocarbon elastomer, ethylene propylene rubber*) provides compatibility with petroleum oils, synthetic fluids, water-glycols, oil/water emulsions, and high water based fluids.
- Screw-in lid requires minimal clearance to remove the element for replacement, and contaminated fluid cannot be washed downstream when element is serviced.
- HYDAC differential Pressure Indicators (*optional*) have no external dynamic seal. This results in a high system reliability due to magnetic actuation, thus eliminating a potential leak point.
- For special finishes and coatings – consult HYDAC for minimum quantities, availability and pricing.

### Applications



Agricultural



Gearboxes



Industrial



Power Generation



Pulp & Paper



Shipbuilding



Steel / Heavy Industry

### Installation

The NF Set Manifold Cartridge Filter is installed into a threaded cavity that is machined in the manifold (*manifold not included - see cavity drawing*). A bushing is provided for proper element installation, as well as a bowl with o-ring seal and back-up ring. An element can be provided as a option. The bushing holds the element in place during filtration operation, and facilitates easy removal for element change out.

More than one SET may be installed in the manifold if required for capacity. A differential pressure clogging indicator, to warn of high upstream pressure (*element clogged*), can be attached to the manifold as well (*cavity drawings for that upon request*). For additional information, contact HYDAC.

### Technical Specifications

<b>Mounting Method</b>	See drawings
<b>Flow Direction</b>	
Element	Out-to-in
<b>Construction Materials</b>	
Housing, Lid	Aluminum
<b>Flow Capacity</b>	
1350	343 gpm (1300 lpm)
2250	396 gpm (1500 lpm)
2650	450 gpm (1700 lpm)
<b>Housing Pressure Rating</b>	
Max. Allowable Working Pressure*	360 psi (25 bar)
Fatigue Pressure	360 psi (25 bar)
Burst Pressure	1754 psi (121 bar)
<b>Element Collapse Pressure Rating</b> ( <i>optional</i> )	
ON, W/HC	290 psid (20 bar)
ECON2, BN4AM, P/HC, AM	145 psid (10 bar)
V	435 psid (30 bar)
<b>Fluid Temperature Range</b>	-22°F to 212°F (-30°C to 100°C)
Consult HYDAC for applications below -22°F (-30°C)	
<b>Fluid Compatibility</b>	Compatible with all hydrocarbon based, synthetic, water glycol, oil/water emulsion, and high water based fluids when the appropriate seals are selected.
<b>Indicator Trip Pressure</b> ( <i>optional</i> )	
ΔP = 29 psid (2 bar) -10%	1.0 - Static
ΔP = 72 psid (5 bar) -10%	2.0 - Differential
<b>Bypass Valve Cracking Pressure</b> ( <i>included when element present</i> )	
ΔP = 14.5 psid (1 bar) +10%	
ΔP = 43 psid (3 bar) +10% ( <i>standard</i> )	
ΔP = 87 psid (6 bar) +10%	

\*Note: All NF...1.0 Filters MAWP reduce to 7 bar (101.5 psi) when using the following "VMF" and "VR" indicators: B, BM, E, ES, GC, LE, LZ.

## Model Code

**NF ON 1350 SET 3 W 1 . 0 /**

**Filter Type** \_\_\_\_\_  
 NF = Manifold cartridge filter

**Element Media** \_\_\_\_\_  
 (omit) = Without element      ON = Optimicron®  
 BN/AM = Betamicon®/Aquamicron®      ECON2 = ECOmicron®  
 AM = Aquamicron®      W/HC = Wire Mesh  
 P/HC = Polyester      V = Metal Fiber

**Size** \_\_\_\_\_  
 1350, 2250, 2650

**Type of Mounting** \_\_\_\_\_  
 SET = Manifold cartridge

**Filtration Rating (micron)** \_\_\_\_\_  
 XX = Without element  
 1, 3, 5, 10, 15, 20 = ON  
 3, 5, 10, 20 = ECON2  
 3, 10 = BN4AM  
 40 = AM  
 10, 20 = P/HC  
 25, 50, 100, 200 = W/HC  
 3, 5, 10, 20 = V

**Type of ΔP Clogging Indicator** \_\_\_\_\_  
 W = Without indicator (Indicators can be installed in manifold, cavity drawing upon request).  
 (For additional details and options, see Clogging Indicators section.)

**Type Number** \_\_\_\_\_  
 1 = Sizes 1350, 2250, 2650

**Modification Number (latest version always supplied)** \_\_\_\_\_

**Seals** \_\_\_\_\_  
 (omit) = Nitrile rubber (NBR) (standard)  
 V = Fluorocarbon elastomer (FKM)  
 EPR = Ethylene propylene rubber (EPR)

**Bypass Valve (included when element present)** \_\_\_\_\_  
 (omit) = 43 psid (3 bar) (standard)  
 B1 = 14.5 psid (1 bar) (lube or coolant)  
 B6 = 87 psid (6 bar) (return line extended life) ] not available with ECON2  
 KB = no bypass (flushing system)

**Supplementary Details** \_\_\_\_\_  
 SO263 = Modification of elements for Skydrol or HYJET phosphate ester fluids  
 W = Modification of "V" elements for use with oil water emulsions (HFA) and water polymer solutions (HFC)  
 SFREE = Element specially designed to minimize electrostatic charge generation  
 SO882 = Quality protected  
 SO376 = Modification of ON and W/HC elements for HFA, HFB, HFC, and HFD flame retardant liquids

## Replacement Element Model Code

**1300 R 003 ON / V**

**Size** \_\_\_\_\_  
 1300 - for housings: 1350  
 2200 - for housings: 2250  
 2600 - for housings: 2650

**Filtration Rating (micron)** \_\_\_\_\_  
 1, 3, 5, 10, 15, 20 = ON  
 3, 5, 10, 20 = ECON2  
 3, 10 = BN4AM  
 40 = AM  
 10, 20 = P/HC  
 25, 50, 100, 200 = W/HC  
 3, 5, 10, 20 = V

**Element Media** \_\_\_\_\_  
 ON, ECON2, BN4AM, AM, P/HC, W/HC, V

**Seals** \_\_\_\_\_  
 (omit) = Nitrile rubber (NBR) (standard)  
 V = Fluorocarbon elastomer (FKM)  
 EPR = Ethylene propylene rubber (EPR)

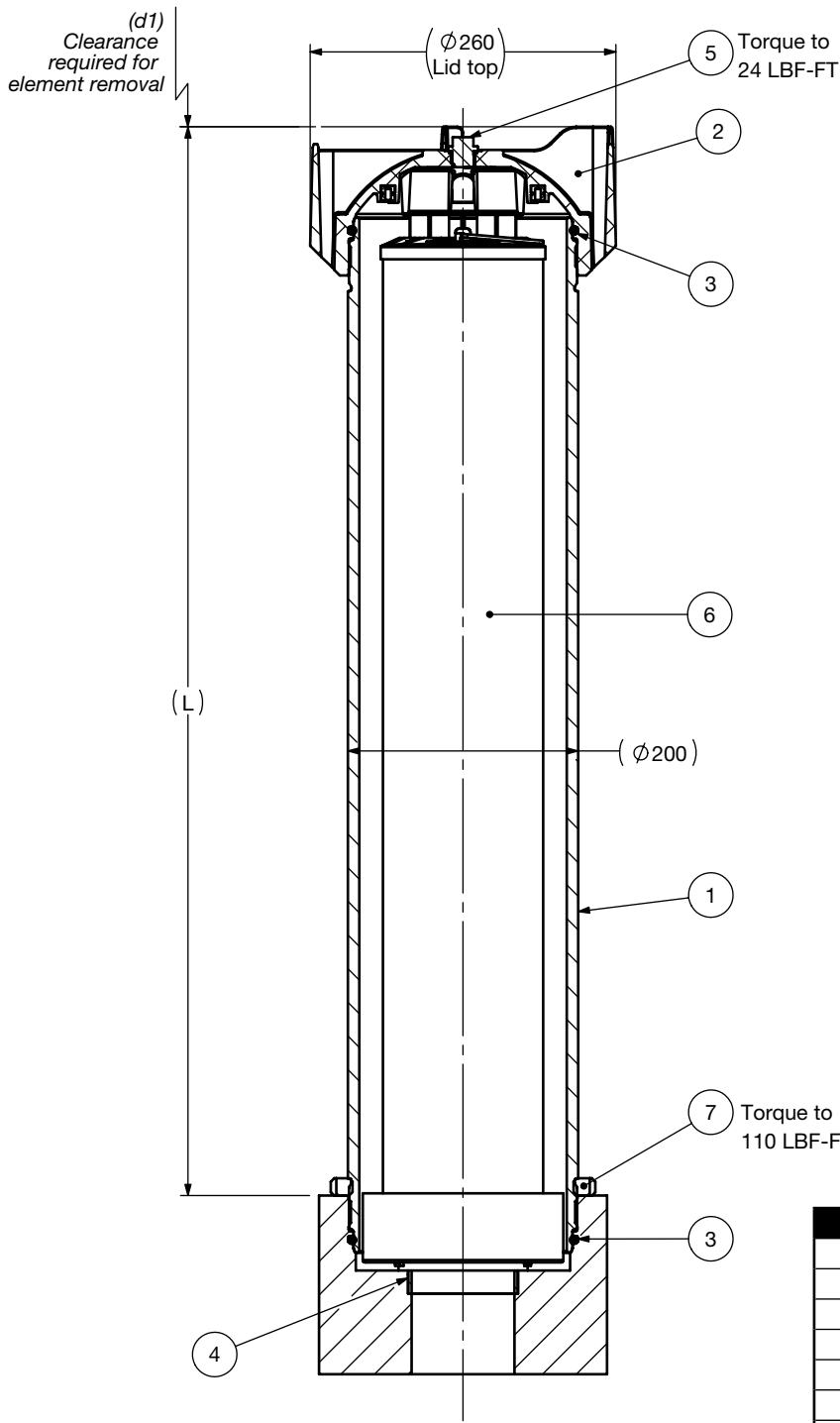
**Bypass Valve** \_\_\_\_\_  
 (omit) = 43 psid (3 bar) (standard)  
 B1 = 14.5 psid (1 bar)  
 B6 = 87 psid (6 bar)  
 KB = no bypass

**Supplementary Details** \_\_\_\_\_  
 SO263 = (same as above)      W = (same as above)  
 SFREE = (same as above)      SO882 = Quality protected  
 SO376 = (same as above)

Model Codes Containing RED are non-stock items — Minimum quantities may apply – Contact HYDAC for information and availability

# SET SERIES FILTERS – LOW PRESSURE

## Dimensions NF Set 1350 / 2250 / 2650



Size	L	D1
NF 1350 SET	490	470
NF 2250 SET	587	571
NF 2650 SET	931	915

Item No	SET Components
1	Housing tube
2	Lid
3	O-ring seal
4	Bushing
5	Vent/drain plug
6	Element (optional)
7	Lock nut

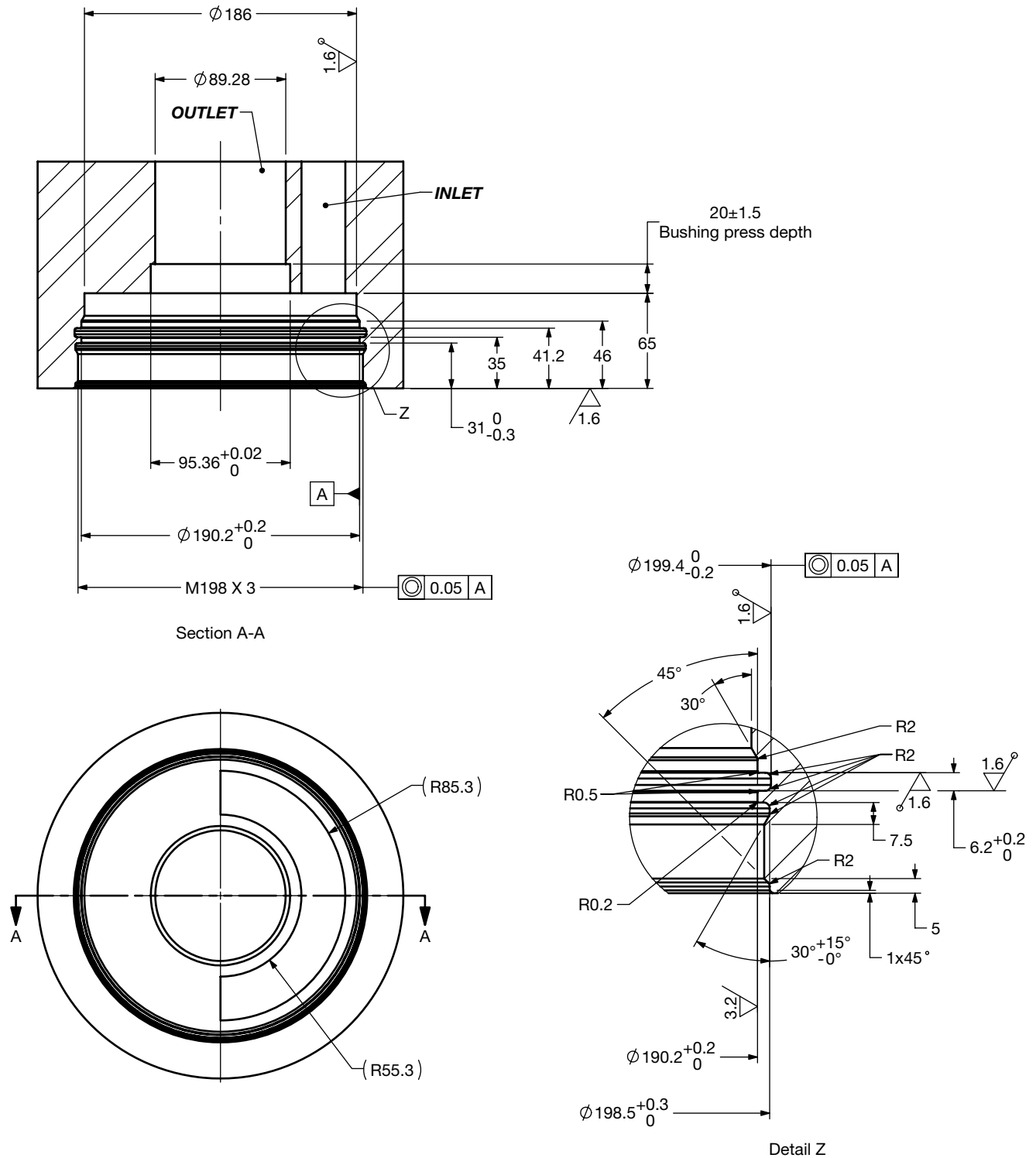
### Unspecified Tolerances

From	0.5	6	30	120	400
To	6	30	120	400	1000
	±0.1	±0.2	±0.3	±0.5	±0.8

Size	1350	2250	2650
Weight (lbs.)	33.1	47	51.4

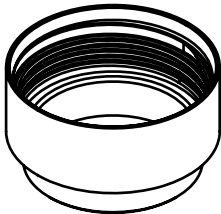
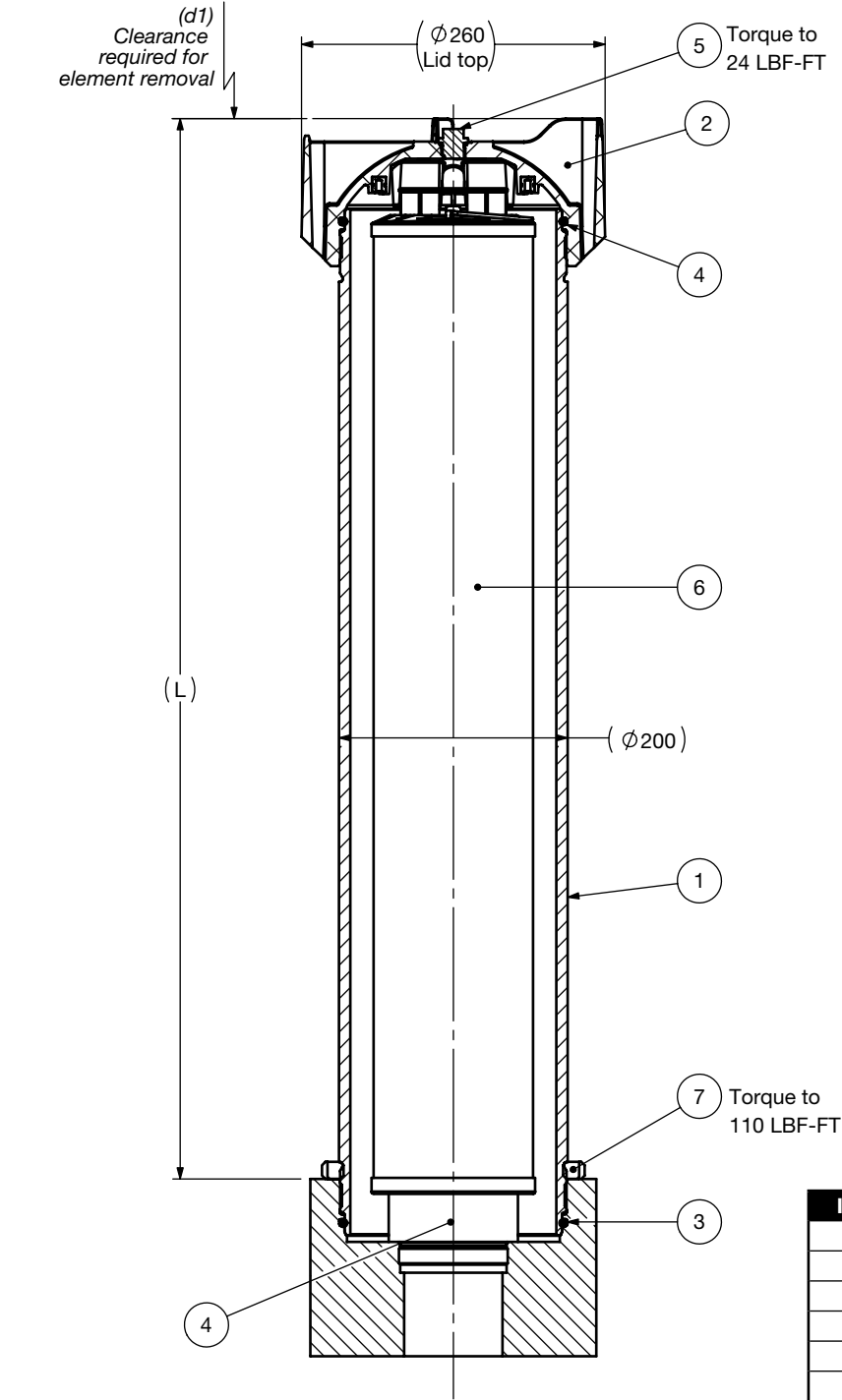
Dimensions shown are millimeters for general information and overall envelope size only. Weights listed include element.  
For complete dimensions please contact HYDAC to request a certified print.

## Customer Manifold Machining NF Set 1350 / 2250 / 2650



# SET SERIES FILTERS – LOW PRESSURE

Dimensions  
NF Set SO882 1350 / 2250 / 2650



Bushing detail  
Item 4  
(Supplied by HYDAC)

Size	L	D1
NF 1350 SET	490	470
NF 2250 SET	587	571
NF 2650 SET	931	915

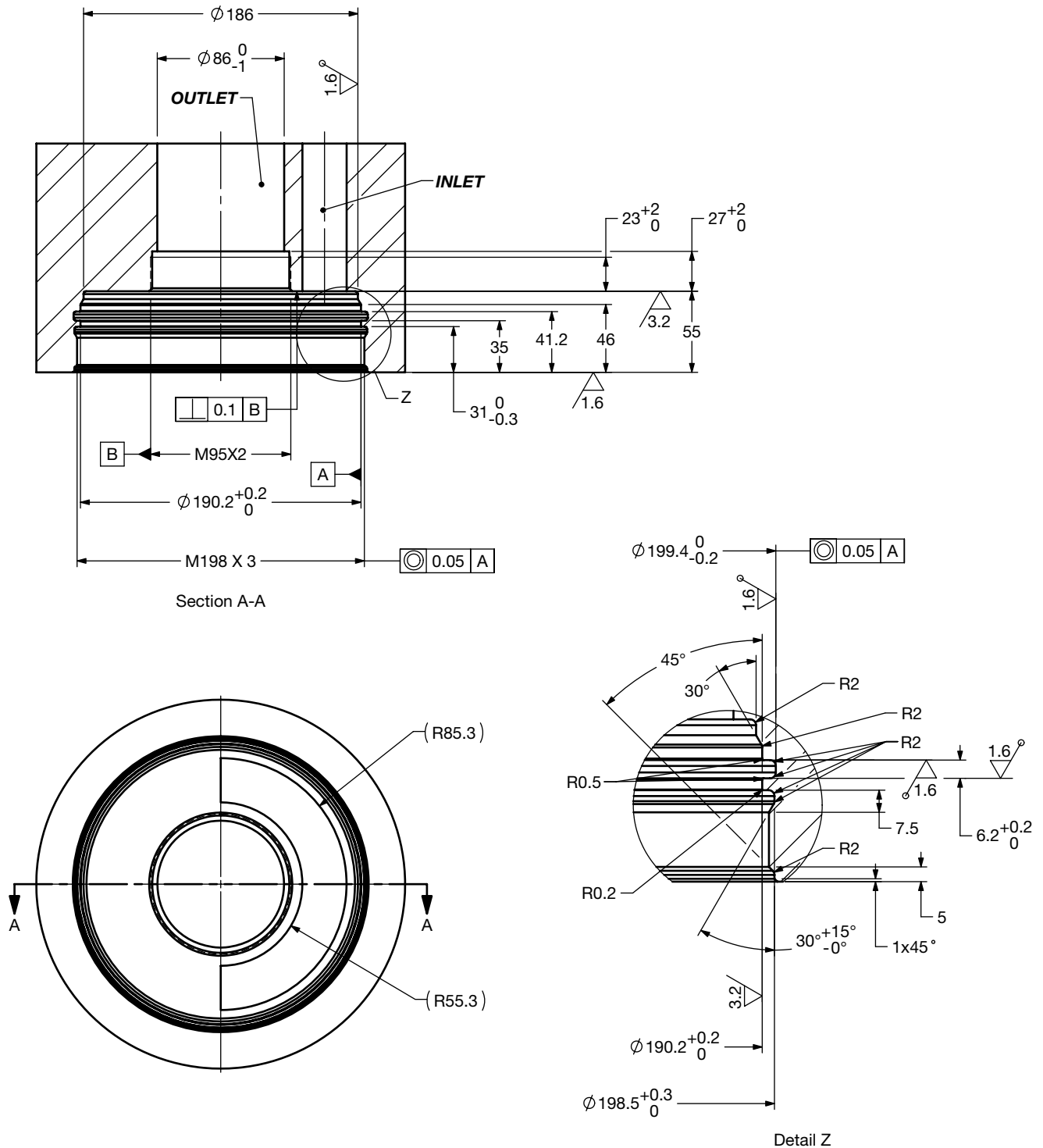
Item No	SET Components
1	Housing tube
2	Lid
3	O-ring seal
4	Bushing
5	Vent/drain plug
6	Element (optional)
7	Lock nut

### Unspecified Tolerances

From	0.5	6	30	120	400
To	6	30	120	400	1000
	$\pm 0.1$	$\pm 0.2$	$\pm 0.3$	$\pm 0.5$	$\pm 0.8$

Size	1350	2250	2650
Weight (lbs.)	33.7	47.6	52

Dimensions shown are millimeters for general information and overall envelope size only. Weights listed include element.  
For complete dimensions please contact HYDAC to request a certified print.



# SET SERIES FILTERS – LOW PRESSURE

## Element K Factors

$$\Delta P \text{ Elements} = \text{Elements (K) Flow Factor} \times \text{Flow Rate (gpm)} \times \frac{\text{Actual Viscosity (SUS)}}{141 \text{ SUS}} \times \frac{\text{Actual Specific Gravity}}{0.86}$$

(From Tables Below)

Optimicron	...R...ON					
Size	1 µm	3 µm	5 µm	10 µm	15 µm	20 µm
1300 R XXX ON	0.094	0.04	0.032	0.019	0.018	0.012
2200 R XXX ON	0.058	0.027	0.022	0.012	0.011	0.008
2600 R XXX ON	0.046	0.02	0.016	0.01	0.009	0.006

ECOMICRON	...R...ECON2			
Size	3 µm	5 µm	10 µm	20 µm
1300 R XXX ECON2	0.044	0.033	0.022	0.016
2200 R XXX ECON2	0.029	0.021	0.013	0.008
2600 R XXX ECON2	0.022	0.016	0.011	0.005

Betamicon/Aquamicon	...R...BN4AM	
Size	3 µm	10 µm
1300 R XXX BN4AM	0.088	0.033
2200 R XXX BN4AM	0.062	0.021
2600 R XXX BN4AM	0.055	0.016

Aquamicon	...R...AM
Size	40 µm
1300 R 040 AM	0.026
2200 R 040 AM	0.016
2600 R 040 AM	0.013

Wire Mesh	...R...W/HC
Size	25, 50, 100, 200 µm
1300 R XXX W/HC	0.002
2200 R XXX W/HC	0.001
2600 R XXX W/HC	0.001

Polyester	...R...P/HC	
Size	10 µm	20 µm
1300 R XXX P/HC	0.004	0.002
2200 R XXX P/HC	0.004	0.004
2600 R XXX P/HC	0.002	0.001

All Element K Factors in psi / gpm.



## This image shows a full page of graph paper. The grid consists of thin, light gray horizontal and vertical lines that intersect to form small squares across the entire surface. In the bottom right corner, there is a small, square QR code. The rest of the page is empty except for the grid lines.

