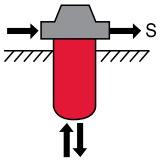
# RKM Series

## Multi-functional Filters

**145 psi • up to 210 gpm**

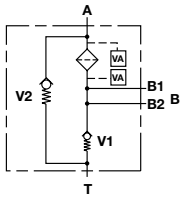



## Features

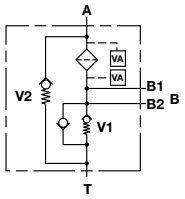
- RKM is a combination open loop return and closed loop suction boost filter in one housing.
- The return line flow of the operating hydraulics is fed to the filter via port A *(inlet)* and is cleaned by the filter element *(full flow return line filtration)*. A pressure (standard = 7 psi) is applied by the back-pressure valve V1. This insures that the filtered, precharged return line flow is available to the hydrostatic feed pump via ports B *(full flow suction boost filtration)*. Excess fluid is drained via the back-pressure valve to the tank *(port T)*.
- A bypass valve V2 *(standard = 36 psi)* is incorporated in the filter housing to relieve excessive back-pressures in the element *(important on cold starts)*. Flow from the tank can be drawn via the anti-cavitation valve V3 to the suction side for a short time *(emergency function)*.
- Full flow finest filtration *(10 µm, 15 µm absolute)* of the return line and hydrostatic feed pump extends the service life of your components.
- Outstanding cold start characteristics due to the precharge via the back pressure valve *(standard = 7 psi)*.
- Due to the advanced RKM element technology and specially developed bypass valves, the lowest back-pressures can be achieved across the filter even at very low temperatures.
- One tank cutout for up to 6 suction and 3 return lines.
- Aluminum alloy is water tolerant - anodization is not required for water based fluids (HWBF).
- RKM elements do not incorporate bypass in the end cap —the bypass is located in the RKM housing.

## Hydraulic Symbol

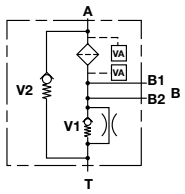
**Standard**



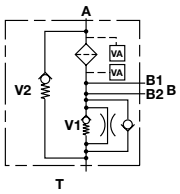

**/-NR** (with anti-cavitation)



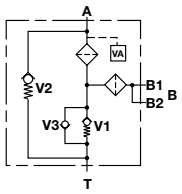

**/-ND** (with pressure release orifice)




**/-NRD**




**/-NRF125** (with anti-cavitation valve and a coarse filter with 125 µm)




## Technical Specifications

| | | |
|---|---|---|
| **Mounting Method** | 100 | 2 mounting holes |
| | 201 - 800 | 4 mounting holes |
| **Port Connection** | Return / Suction | |
| 100 | SAE-8 / SAE-8 | |
| | SAE-12 / SAE-12 | |
| | SAE-16 / SAE-16 | |
| 201/251 | SAE-20 / 2 x SAE-16 | |
| 300 | SAE 1 1/2" CS, Code 61-Split Flange (SF) | |
| | / 2 x SAE 1 1/4" CS, Code 61-Split Flange (SF) | |
| 350 | SAE-24 / SAE-16 | |
| 400/800 | R1–2" SAE flange / Cust. specified or | |
| | R1–2 1/2" SAE flange / Cust. specified | |
| **Flow Direction** | Inlet: Side | Outlet: Side & bottom |
| **Construction Materials** | | |
| Head | Aluminum | |
| Housing/Bowl | Steel (100/201/251/350/400/800) | |
| | Polyamide (300) | |
| Lid | Polyamide (100/201/251/350) | |
| | Aluminum (300/400/800) | |
| **Flow Capacity** | | |
| 100 | 26 gpm (100 lpm) | |
| 201 | 52 gpm (200 lpm) | |
| 251 | 66 gpm (250 lpm) | |
| 300 | 79 gpm (300 lpm) | |
| 350 | 92 gpm (350 lpm) | |
| 400 | 105 gpm (400 lpm) | |
| 800 | 211 gpm (800 lpm) | |
| **Housing Pressure Rating** | | |
| Max. Allowable Working Pressure* | | 145 psi (10 bar) |
| Fatigue Pressure | | Contact HYDAC |
| Burst Pressure | | Contact HYDAC |
| **Element Collapse Pressure Rating** | | |
| MM | 145 psid (10 bar) | |
| **Fluid Temp. Range** | 14°F to 212°F (-10°C to 100°C) | |
| Consult HYDAC for applications below 14°F (-10°C) | | |
| **Fluid Compatibility** | | |
| Compatible with all hydrocarbon based, synthetic, water glycol, oil/water emulsion, and high water based fluids when the appropriate seals are selected. | | |
| **Indicator Trip Pressure** | | |
| P = 29 psi (2 bar) -10% *(standard)* | | |
| P = 72 psi (5 bar) -10% *(optional)* | | |
| **Bypass Valve Cracking Pressure** | | |
| ΔP = 36 psid (2.5 bar) +10% *(standard)* | | |
| ΔP = 87 psid (6 bar) +10% *(optional)* | | |
| **Back Pressure Valve Cracking Pressure** | | |
| ΔP = 7 psid (0.5 bar) +10% *(standard)* | | |
| ΔP = 43 psid (3 bar) +10% *(optional)* | | |

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

*info@hidrafluid.es*
*976 24 32 10*

## Model Code

**RKM MM 300 B T F 10 E 1 . X / 12-V-NR**

**Filter Type**
RKM = Low pressure multifunction

**Element Media**
MM = Mobilemicron® *( Low Collapse)*

**Size**
100, 201, 251, 300, 350, 400, 800

**Operating Pressure**
B = 145 psi
V = 101.5 psi (7 bar) *(*Note previous page)*

**Type of Port / Size of Suction Line Port**
T = 2 x CS 1 1/4" Code 61 Split Flange *(size 300 only)*
V = 2 x 1" Threaded *(sizes 201 & 251 only)*
X = 1 x 1" Threaded *(size 100 & 350 only)*
Y = 1 x 3/4" Threaded *(size 100 only)*
Z = According to customer specification
*For sizes 100 Multiport, 201/251 Multiport & 400/800 - see next page*

**Type of Port / Size of Return Line Port**
C = 3/4" Threaded *(size 100 only)*
D = 1" Threaded *(size 100 only)*
E = 1 1/4" Threaded *(sizes 201 & 251 only)*
F = CS 1 1/2" Code 61 *(size 300 only)*
G = 1 1/2" Threaded *(size 350 only)*
Z = According to customer specification
*For Sizes 400/800, see below. Other port sizes on request.*
*For sizes 100 Multiport, 201/251 Multiport & 400/800 - see next page*

**Filtration Rating** *(microns)*
8, 10, 15 = MM

**Type of Static Clogging Indicator**
A, E, F

**Type Code**
0 = no indicator
1-8 = see Clogging Indicator Locations *(next page)*

**Modification Number** *(the latest version is always supplied)*

**Supplementary Details**
*(omit)* = standard *(without anti-cavitation valve; seals in NBR, bypass valve 2.5 bar, back-pressure valve 0.5 bar)*
0 = BSPP ports
12 = SAE O-Ring Boss Ports
**Seals**
*(omit)* = Nitrile rubber (NBR) *(standard)*
V = Fluorocarbon elastomer (FKM)
NR = with anti-cavitation valve
ND = with pressure release orifice
NRD = with anti-cavitation valve and with pressure release valve
NRF125 = with anti-cavitation valve and coarse filter strainer 125 µm
UT = suitable for use when horizontally mounted below reservoir fluid level
MP4 = RKM Multi-port 2 x SAE-16 + 1 x SAE-20 Return Ports, 2 x SAE-Suction Ports
SFREE = Element specially designed to minimize electrostatic charge generation

## Replacement Element Model Code

**0300 RK 010 MM / V**

**Size**
0100, 0201, 0251, 0300,
0350, 0400, 0800

**Type**
RK

**Filtration Rating** *(micron)*
8, 10, 15 = MM

**Supplementary Details**
**Seals**
*(omit)* = Nitrile rubber (NBR) *(standard)*
V = Fluorocarbon elastomer (FKM)
SFREE = *(Same as above)*

## Clogging Indicator Model Code

**VMF 2 E . X / V**

**Indicator Prefix**
VMF = Mobile Filters
VM = Differential pressure indicators
*(size 350 - 1.0 position only)*

**Trip Pressure**
2 = 29 psid (2 bar) *(return filters)*
1.7 = 25 psid (1.7 bar) *(optional)*
*Note: 15 psid (1 bar) & 3 psid (0.2 bar) also available*

**Type of Indicator**
A = No indicator, plugged port
E = Pressure gauge
F = Pressure switch

**Modification Number**

**Supplementary Details**
**Seals**
*(omit)*= Nitrile rubber (NBR) *(standard)*
V = Fluorocarbon elastomer (FKM)

*(For additional details and options, see Section G - Clogging Indicators.)*

*info@hidrafluid.es*
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