

HYDAC Filtrertechnik: Betamicron® 4 New Element Generation with Increased Performance



Description

Already with the previous Betamicron® technology (generation 3), you have always been on the safe side: High and, above all, long-term stable fluid cleanliness for almost any hydraulic or lubrication system. The new generation **Betamicron® 4** even tops it: Better performance data for the same price.

The typical HYDAC element structure was maintained: The unique outer envelope ensures optimum guiding of the flow and protection of the high-quality filter medium; the star-shaped folded filter mat stabilizes the element, through which fluid flows from outside to inside and ensures maximum utilization of the glass fiber's efficiency.

The key innovations are:

- Optimized mat structure with newly developed filter media and additional drainage layer
- Higher particle separation ($\beta_{x(c)}$ value)
- Higher contamination retention
- Improved $\Delta p/Q$ characteristics
- Patented process for longitudinal seam bonding
- Element is fully discharge-capable
- Use of spiro lock seam support tubes
- Outer envelope made of plastic (previously metal)

Technical data:

- Collapse burst pressure:
 - Low pressure differential stability: 20 bar (BN4HC)
 - High pressure differential stability: 210 bar (BH4HC)
- Filter ratings: 3, 5, 10, 20 μm

Application

The new fiber glass technology, installed in the return line filter elements (R) and pressure filter elements (D) is used for the fine filtration of hydraulic and lubricating fluids.

Advantages

Longer plant service life, improved protection of sensitive components

Due to the use of a new filter media combination in the new Betamicron® 4 technology it was possible to achieve a remarkable improvement in filtration results.

Reduced operational cost,

because the new filter elements need to be changed even less frequently due to the up to **30 %** higher contamination retention capacity and improved flow characteristics.

High operational reliability,

because the patented longitudinal seam (= smooth seam in the transition area of the filter media) does not permit a particle exchange between the clean and the dirt side, and because the filter element is fully discharge capable (no generation of potential or sparks).

Universal use

also of the new elements with modern hydraulic and lubricating oils, in particular due to the absence of components containing zinc.

Reduced shipping and waste disposal cost,

because the weight of the new elements was reduced by up to 30 % due to the use of spiro lock seam support tubes.

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Betamicron®4

New Element Generation
with Increased Performance



Performance Data

Dirt retention capacity in g
Established in line with the
multipass test ISO 16889

Pressure elements (D)

Size	Betamicron® BN4HC				Betamicron® BH4HC			
	3µm	5µm	10µm	20µm	3µm	5µm	10µm	20µm
30	4.6	5.1	5.4	5.6	3.0	2.9	3.2	3.7
35	7.2	8.1	8.6	8.8	-	-	-	-
55	14.0	15.8	16.6	17.2	-	-	-	-
60	6.5	7.3	7.8	8.0	4.6	4.5	5.0	5.7
75	21.6	24.3	25.7	26.5	-	-	-	-
95	27.5	30.9	32.7	33.7	-	-	-	-
110	13.8	15.5	16.4	16.9	10.1	9.9	10.9	12.4
140	18.1	20.3	21.5	22.2	13.3	13.0	14.3	16.3
160	19.8	22.2	23.5	24.3	12.9	12.6	13.9	15.9
240	32.3	36.3	38.4	39.6	21.6	21.1	23.2	26.5
280	70.6	79.3	83.9	86.6	48.1	47.1	51.8	59.1
330	47.2	53.1	56.1	57.9	34.6	33.9	37.2	42.5
500	76.9	86.5	91.5	94.4	57.5	56.3	61.8	70.5
660	102.2	114.9	121.5	125.4	76.8	75.2	82.6	94.3
990	154.5	173.7	183.7	189.5	111.8	109.4	120.2	137.2
1320	209.9	236.0	249.6	257.5	153.8	150.7	165.5	188.8

Return Line Elements (R)

Size	Betamicron® BN4HC			
	3µm	5µm	10µm	20µm
30	2.6	2.9	3.5	4.0
60	5.7	6.3	7.6	8.6
75	10.3	11.4	13.7	15.5
90	12.2	13.5	16.2	18.3
110	12.0	13.3	16.0	18.1
150	20.4	22.6	27.2	30.8
160	18.6	20.7	24.9	28.1
165	18.7	20.7	24.9	28.2
185	25.6	28.4	34.1	38.6
210	50.7	56.2	67.6	76.5
240	29.3	32.5	39.1	44.2
270	78.4	86.9	104.5	118.2
280	62.3	69.0	83.0	93.9
330	38.4	42.6	51.2	57.9
480	62.3	69.0	83.0	93.9
500	58.9	65.3	78.6	88.9
660	87.1	96.5	116.1	131.3
750	147.1	163.0	196.1	221.9
850	112.1	124.2	149.5	169.1
950	130.0	144.1	173.3	196.1
1200	179.1	198.5	238.8	270.1
1300	181.0	200.7	241.4	273.1
1700	229.8	254.7	306.4	346.6
2600	369.4	409.4	492.5	557.2

Model Code

0060 R 010 BN4HC /-V

Size

0030, 0060, ... , 1300, 1700, 2600

Element type

R = for Return line filters
D = for Pressure filters

Filtration rating

003, 005, 010, 020

Filter material

BN4HC = Betamicron® (glass fiber, Δp = 20 bar)
BH4HC = Betamicron® (glass fiber, Δp = 210 bar)

Supplementary details

V = Seals made of viton

Note:

In the type code of the complete filter, the Betamicron® element material is always designated with BN/HC or BH/HC independently of the generation.

Example:

- Element type code: 0060 R 010 **BN4HC**
- Type code of the complete filter: RF **BN/HC** 60 D C 10 A 1.x

Δp/Q gradient coefficients in mbar/l/min

Flow rate established in line with
ISO 3968

Pressure elements (D)

Size	Betamicron® BN4HC				Betamicron® BH4HC			
	3µm	5µm	10µm	20µm	3µm	5µm	10µm	20µm
30	63.90	43.30	22.80	11.30	91.20	50.70	36.30	19.00
35	23.60	19.00	14.80	9.30	-	-	-	-
55	13.70	11.00	8.10	4.80	-	-	-	-
60	28.90	20.40	13.20	7.90	58.60	32.60	18.10	12.20
75	9.30	7.50	5.30	3.10	-	-	-	-
95	7.50	6.00	4.10	2.40	-	-	-	-
110	14.90	10.70	6.60	3.70	25.40	14.90	8.90	5.60
140	12.80	8.20	4.80	2.90	19.90	11.30	8.10	4.30
160	13.10	8.80	4.60	3.50	16.80	10.40	5.90	4.40
240	8.20	6.10	3.60	2.30	10.60	6.80	3.90	2.90
280	4.00	3.10	1.70	1.30	5.70	3.40	1.80	1.60
330	5.40	3.90	3.00	1.70	7.70	4.50	2.80	2.00
500	3.30	2.40	1.50	1.10	4.20	2.60	1.50	1.20
660	2.50	1.80	1.10	0.80	3.30	1.90	1.00	0.90
990	1.60	1.20	0.70	0.50	2.20	1.30	0.80	0.60
1320	1.20	0.90	0.50	0.40	1.60	1.00	0.60	0.40

Return Line Elements (R)

Size	Betamicron® BN4HC			
	3µm	5µm	10µm	20µm
30	68.40	43.90	26.80	14.70
60	26.80	18.30	10.90	6.90
75	22.00	14.20	8.10	4.40
90	14.90	10.10	6.70	3.20
110	14.90	9.40	6.00	3.20
150	8.90	6.00	4.00	1.90
160	9.50	5.90	3.80	2.90
165	11.20	7.80	4.50	2.40
185	8.90	6.10	3.30	1.80
210	3.90	2.60	1.80	1.10
240	6.20	3.80	2.60	1.80
270	2.50	1.70	1.10	0.70
280	3.10	2.20	1.60	1.00
330	4.20	2.70	1.70	1.20
480	3.10	2.20	1.60	1.00
500	3.00	1.90	1.30	0.80
660	1.90	1.20	0.80	0.50
750	1.30	0.90	0.60	0.40
850	1.50	1.00	0.70	0.40
950	1.20	0.80	0.50	0.40
1200	1.00	0.80	0.50	0.30
1300	0.80	0.60	0.40	0.30
1700	0.70	0.50	0.30	0.20
2600	0.40	0.30	0.20	0.10

Prices / Delivery Times

The new element technology will be successively included in the series program from **October 2006** on. The material numbers will remain unchanged. The new elements are, of course, downward compatible, i. e. they can be installed in existing systems on a 1:1 basis.

The prices remain unchanged and can be found in the current **HYDAC price list**. Since the prices were not increased, please use the prices for element technology Betamicron®3 for a transitional period. The delivery time is approx. 2-3 weeks.

Further Information

Detailed performance data and further information about the new Betamicron®4 element technology can be found in the new HYDAC brochure manual, which can be ordered from HYDAC directly from 01.12.2006 on, or at www.hydac.com.

Please note that for fine filtration HYDAC also offers so-called Mobilemicron elements (optimized in terms of differential pressure) and ECOMICRON® elements (which feature particular ease of waste disposal). For more information, please contact the technical sales organization of HYDAC Filtrertechnik (contact see below) or the HYDAC field office in your vicinity.

NOTE

The information in this brochure relates to the operating conditions and applications described. For applications or operating conditions not described, please contact the relevant technical department.
Subject to technical modifications.

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