

HANGZHOU HUITENG MECHANICAL & ELECTRICAL EQUIPMENT CO., LTD.

Tel.: +86-571-6171 1109 Fax: +86-571-6171 1109

Website: www.huiteng-tech.com E-mail: sales@huiteng-tech.com

QPD Series

Low Pressure Inline Duplex Filter

For Hydraulic Oil, Lube, Seal & Control Oil, Fuel Oil



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Descriptions

Our QPD series low pressure inline duplex filters are designed in accordance with international regulations, suitable for continuous filtration of hydraulic system, lube oil console in chemical and petrochemical plants, in the offshore industry, and in the power plant sector.

Features:

- Lids are swing bolt mounted, easy for quick element change-over
- With bypass valves and clogging indicators to protect the filter element during start up and over pressurization due to clogging
- With vent and drain
- With sample port on inlet & outlet, easy for check oil quality at any time.
- Providing uninterrupted flow during fluid transfer and cartridge change-over
- Change-over during operation without pressure-loss
- Unique designed transfer valve, compact construction, completely sealed, easy handle operation
- Long service life and, as a result, reduced maintenance costs

How the duplex filter works:

Filtration phase

While one filter chamber of the duplex filter is in filtering mode, the other chamber is always with a cleaned filter element off line. The liquid passes through the filter element and over time the pressure drop in this filter chamber will increase. The increased pressure drop is an indication that particles have been accumulated.

The filter element is clogged and needs to be replaced or cleaned if the differential pressure indicator is triggered.

Cleaning phase

By pull the switch-over lever, the clean filter chamber will be put in operation and the dirty filter chamber is simultaneously switched off. Switching to the clean filter chamber is carried out without a pressure surge.

For cleaning, the contaminated filter chamber is depressurized by the vent screw, the housing cover is removed and the filter element has to be removed. A new and clean element is installed.

Applications:

Turbine manufacturers, machine tool manufacturers, lube oil console manufacturers, mining-gear lube oil filters, transformer oil filtration-distribution terminals, oil recycling plants, hydraulic systems, heat transfer oil filtration and any other rotating equipment such as compressors and motors.

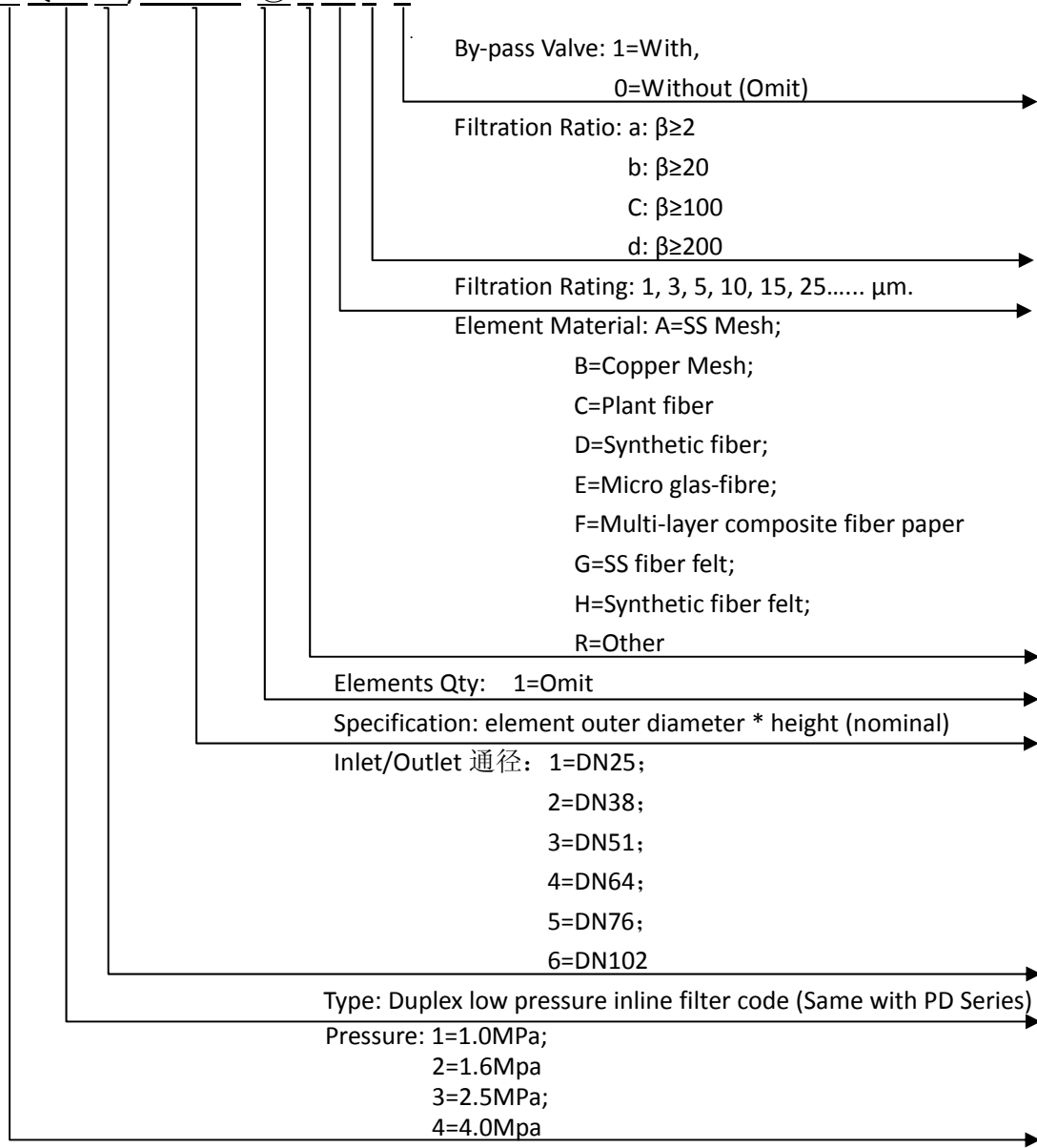
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Model Coding (Ordering Information)

(2) QPD (1)/60*100*(1) E 10 c- 1



Note: The basic applicable media for this series of filters are mineral-based hydraulic oil and lubricating oil. If the medium used is phosphate, water glycol, emulsion, water, etc., additional instructions are required.

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Flow recommendation (commonly used filter materials)

Model No.	Common use filtration rating, element material									
	25			15	10			5	3	1
	E	C	A	E	E	C	A	E	E	E
QPD60*100	40	160	150	20	16	45	60	8	6	4
QPD60*160	63	250	240	30	26	72	100	12	9	6
QPD60*250	100	400	385	50	40	115	150	20	14	10
QPD110*160	160	630	610	80	65	185	250	32	22	16
QPD110*250	250	1000	980	125	105	295	390	52	43	25
QPD140*250	400	1600	1570	200	165	470	630	84	52	40
QPD140*400	630	2500	2500	310	265	755	1000	135	85	63
QPD160*400	1000	4000	4000	500	430	1200	1600	215	135	100
QPD160*600	1500	6000	6000	750	645	1800	2400	320	200	150
QPD160*800	2000	8000	8000	1500	860	2400	3200	430	270	200

Note: The value in the table is the flow that can be passed when the oil viscosity is 32cst and the initial differential pressure of the filter element $\Delta P_0=0.02\text{MPa}$

If the actual viscosity does not match the reference viscosity (32cst), use the following formula to calculate the flow rate Q_{filter}

$$Q_{\text{filter}}=m \times Q_{\text{system}}$$

Q_{filter} -----Filter flow(L/min)

Q_{system} -----Hydraulic, Lube oil system flow(L/min)

m -----Viscosity correction coefficient, its calculation formula is:

$$m = \frac{\gamma/32 + \sqrt{\gamma/32}}{2}$$

γ -----Actual working medium viscosity (Cst)

Example: For a certain system, the pressure is 1.6MPa, the flow rate is 200L/min after considering the margin, the working medium is VG68 hydraulic oil, and the filtration rating is 10 μm . Determine the flow rate of the duplex filter and select the model

$$Q_{\text{filter}}=m \times Q_{\text{system}}=1.8 \times 200=360 \text{ (L/min)}$$

The filter model can be QPD110*250A10, QPD140*250C10, or QPD160*400E10 according to the above table. Select the inlet and outlet size DN51 or DN38 according to the actual flow rate and system flow rate comparison in below table,

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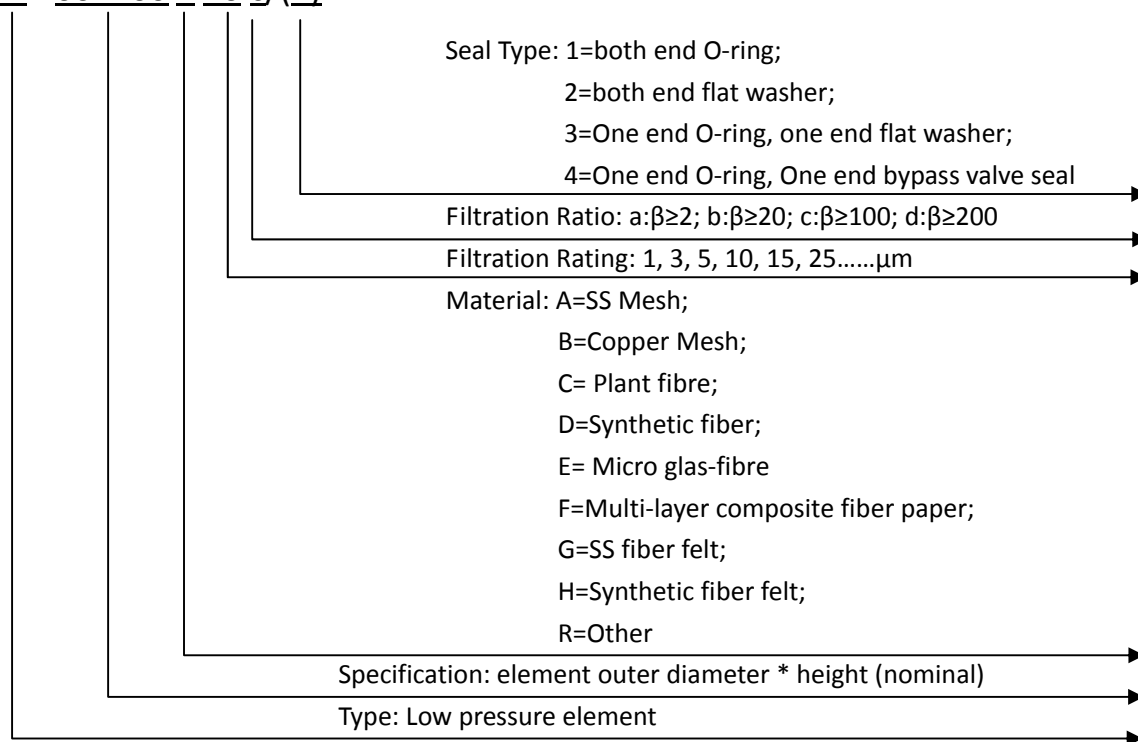
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Nominal diameter, flow rate and differential pressure between pipe port:

Recommended Diameter DN(mm)	Flow(\leq L/min)	differential pressure between pipe port (\leq Mpa)
25	63	0.010
25	100	0.020
38	160	0.010
38	250	0.020
51	320	0.010
51	400	0.020
64	500	0.010
64	630	0.020
76	630	0.010
76	1000	0.020
102	1500	0.010
102	2000	0.020

Filter Element Code:

ER - 60*100 E 10 c/(1)



Note: Match corresponding filter element according to the selection of the filter.

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Performance Parameters

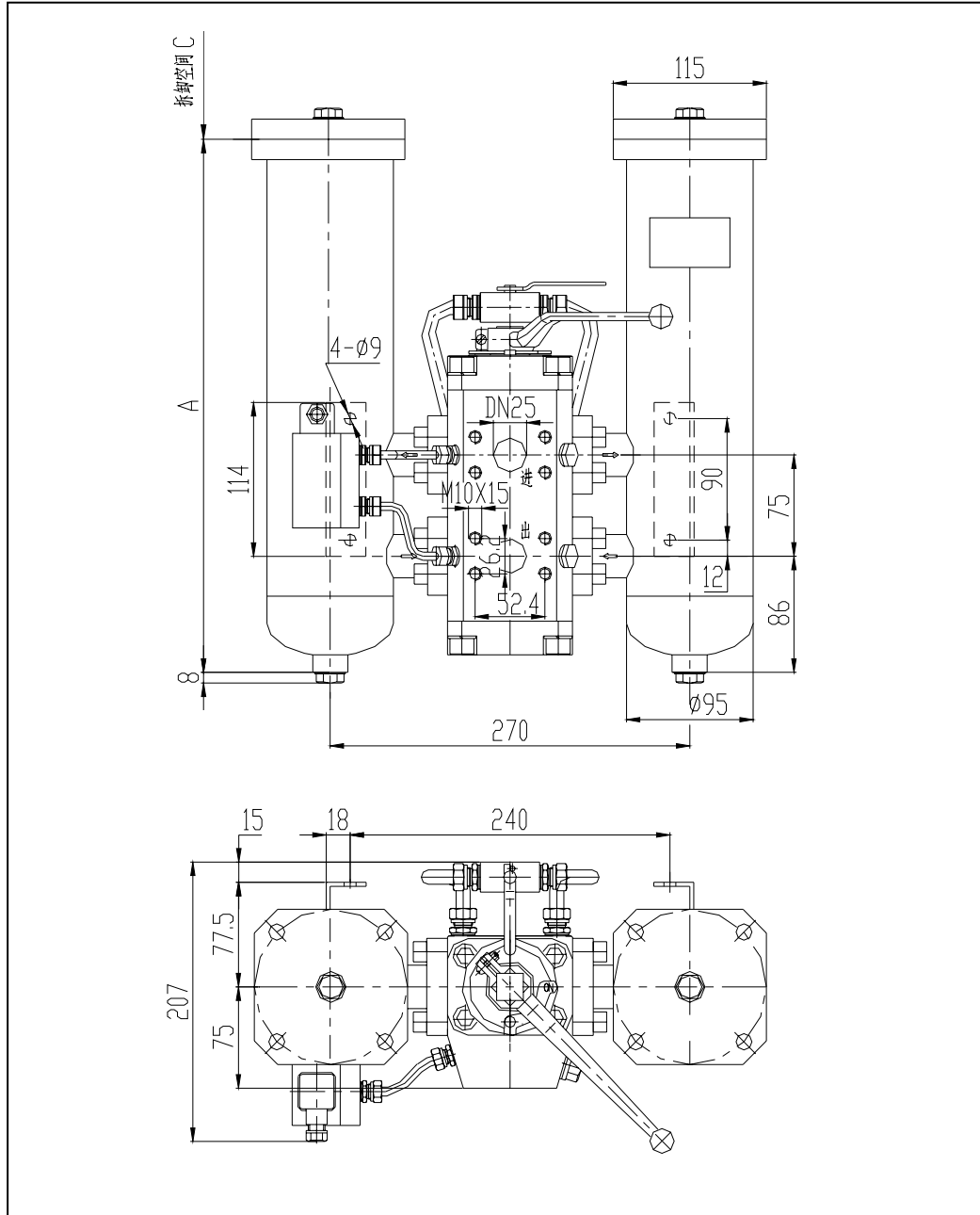
Model No.	Nominal Diameter mm	Nominal Pressure	Maximum Working Differential Pressure	Differential Pressure Indicator			Bypass Valve cracking pressure	Element Structural strength	Working Temperature	Element No.
				Trip Pressure	Voltage	Current				
QPD60×100	DN25	1.0~4.0 MPa	0.35MPa	0.15MPa、 0.35 MPa	24V	2A	0.25MPa	1.0 MPa	0~100℃	ER-60×100
QPD60×160										ER-60×160
QPD60×250										ER-60×250
QPD110×160	DN38									ER-110×160
QPD110×250										ER-110×250
QPD140×250	DN51									ER-140×250
QPD140×400					ER-140×400					
QPD140×250	DN64				ER-140×250					
QPD140×400					ER-140×400					
QPD160×400	DN76				ER-160×400					
QPD160×600	DN102				ER-160×600					
QPD160×800	DN102				ER-160×800					

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Dimensional Drawing



Model No.	Nominal Diameter mm	Flow Capacity L/min	A	C	Inlet/Out	Element Size
QPD60×100	15	40	260	140	DN25	60×100
QPD60×160	20	63	320	200		60×160
QPD60×250	25	100	410	300		60×250

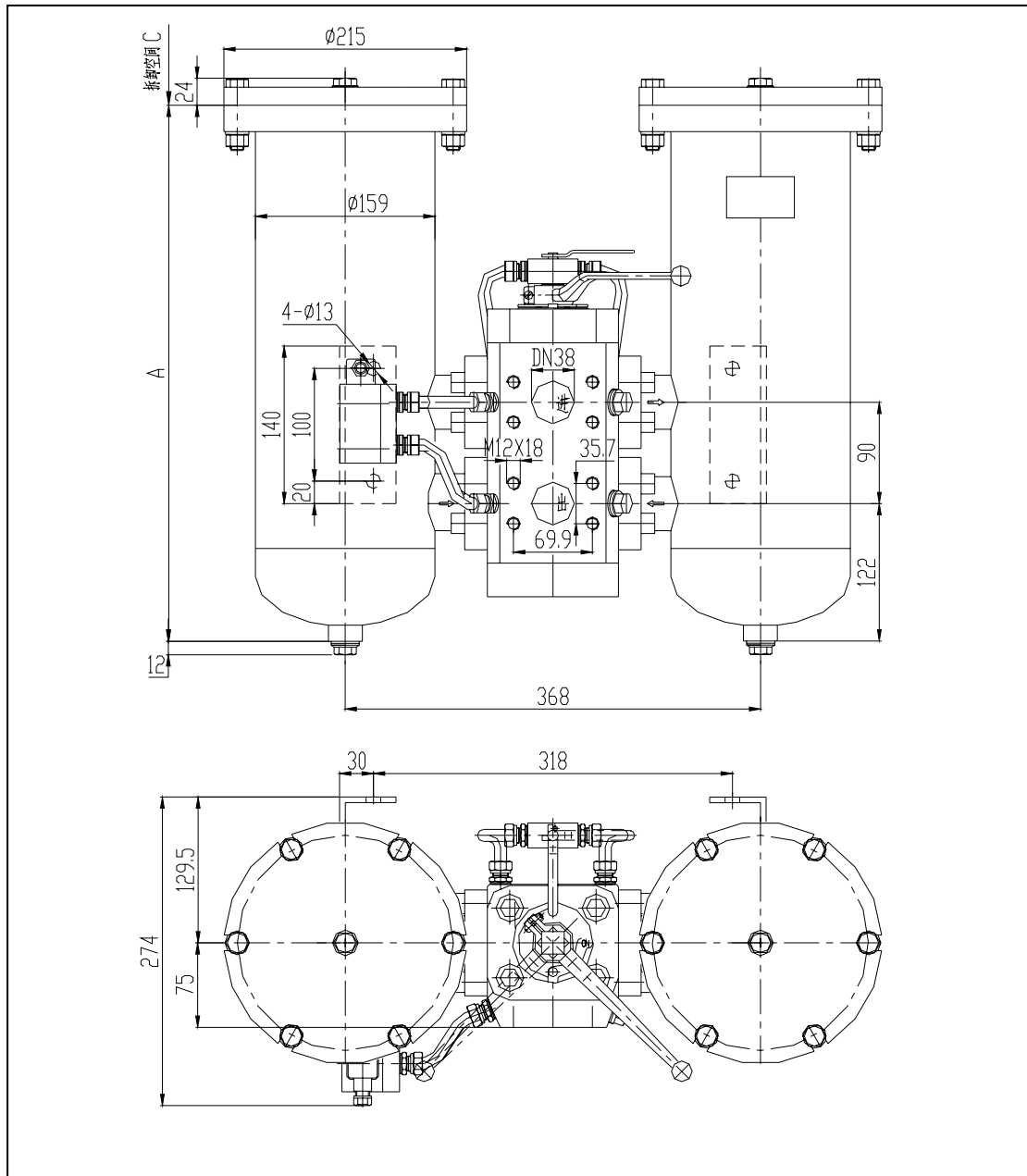
*—The user can also choose a connection size smaller than the value in the table to match the flow; use a transition flange to connect to the pipe.

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Dimensional Drawing



Model No.	Nominal Diameter mm	Flow Capacity L/min	A	C	Inlet/Outlet Flange	Element Size
QPD110×160	38	160	386	230	DN38	110×160
QPD110×250	38	250	476	320		110×250

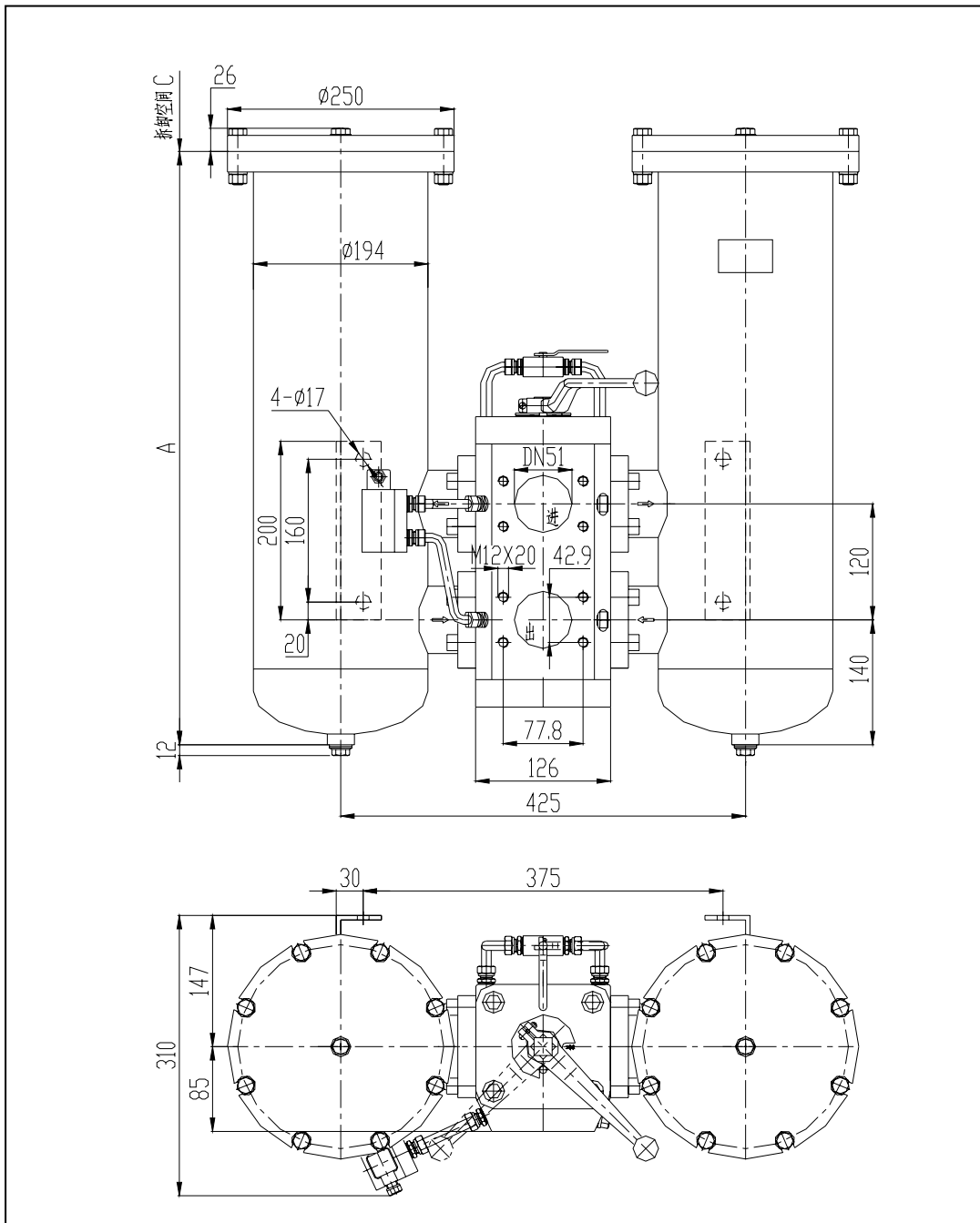
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Dimensional Drawing



Model No.	Nominal Diameter mm	Flow Capacity L/min	A	C	Inlet/Outlet Flange	Element Size
QPD140×250	51	320	515	330	DN51	140×250
QPD140×400	51	400	665	480		140×400

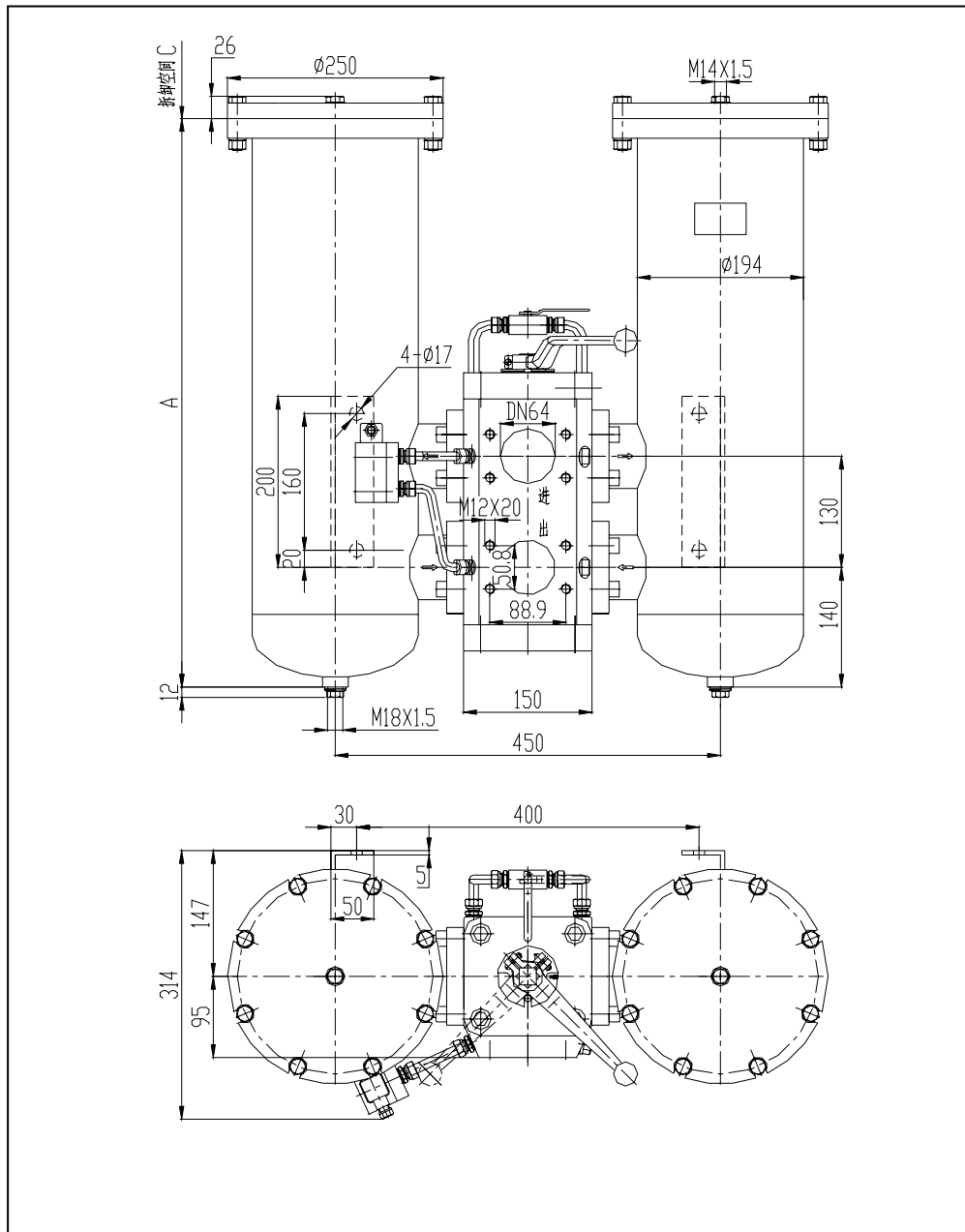
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Dimensional Drawing



Model No.	Nominal Diameter mm	Flow Capacity L/min	A	C	Inlet/Outlet Flange	Element Size
QPD140×250	64	500	515	330	DN64	140×250
QPD140×400	64	630	665	480		140×400

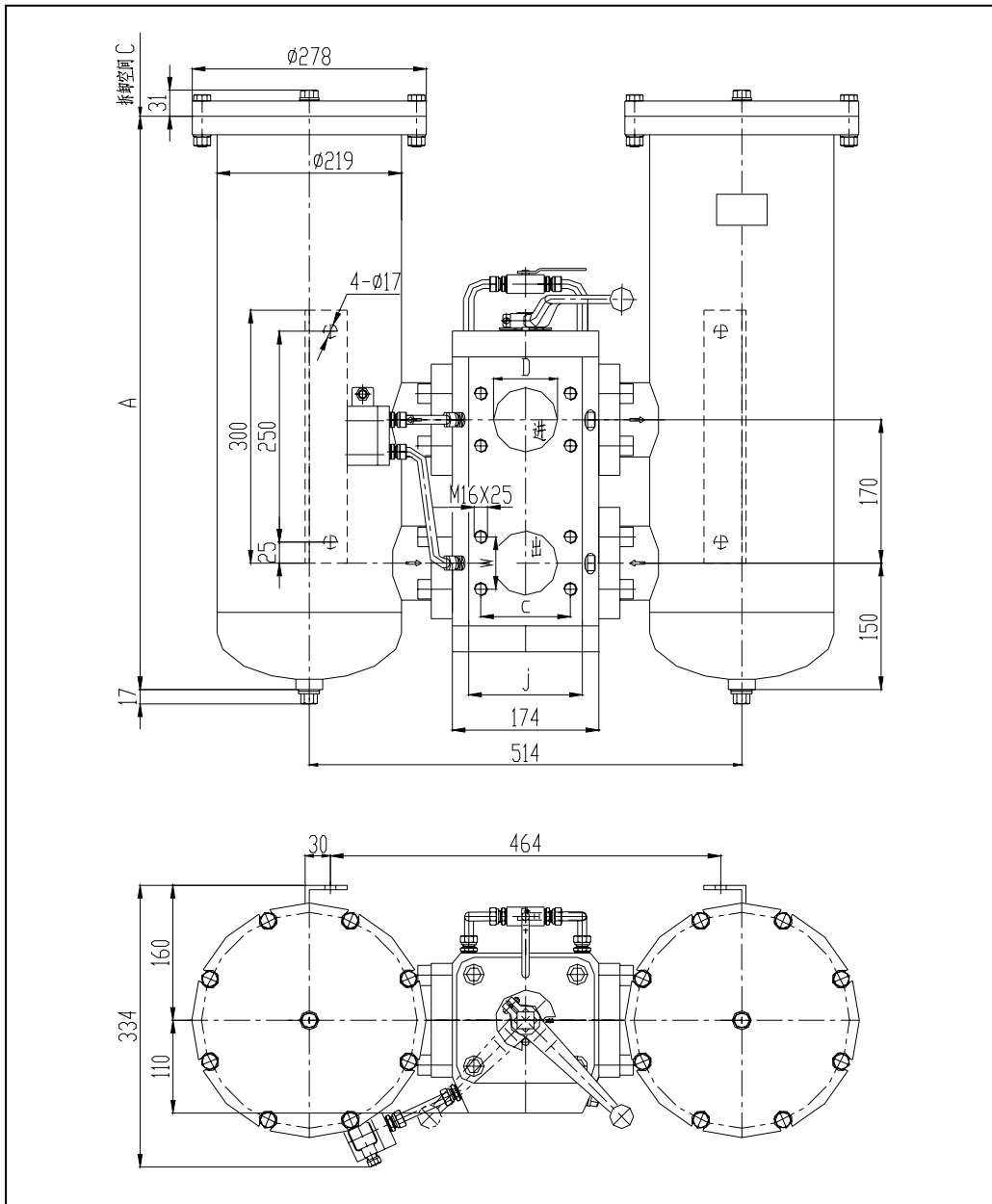
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Dimensional Drawing



Model No.	Nominal Diameter mm	Flow Capacity L/min	A	C	Inlet/Outlet Flange	Element Size
QPD160×400	76	1000	680	480	DN76	160×400
QPD160×600	102	1500	880	680	DN102	160×600
QPD160×800	102	2000	1080	880		160×800

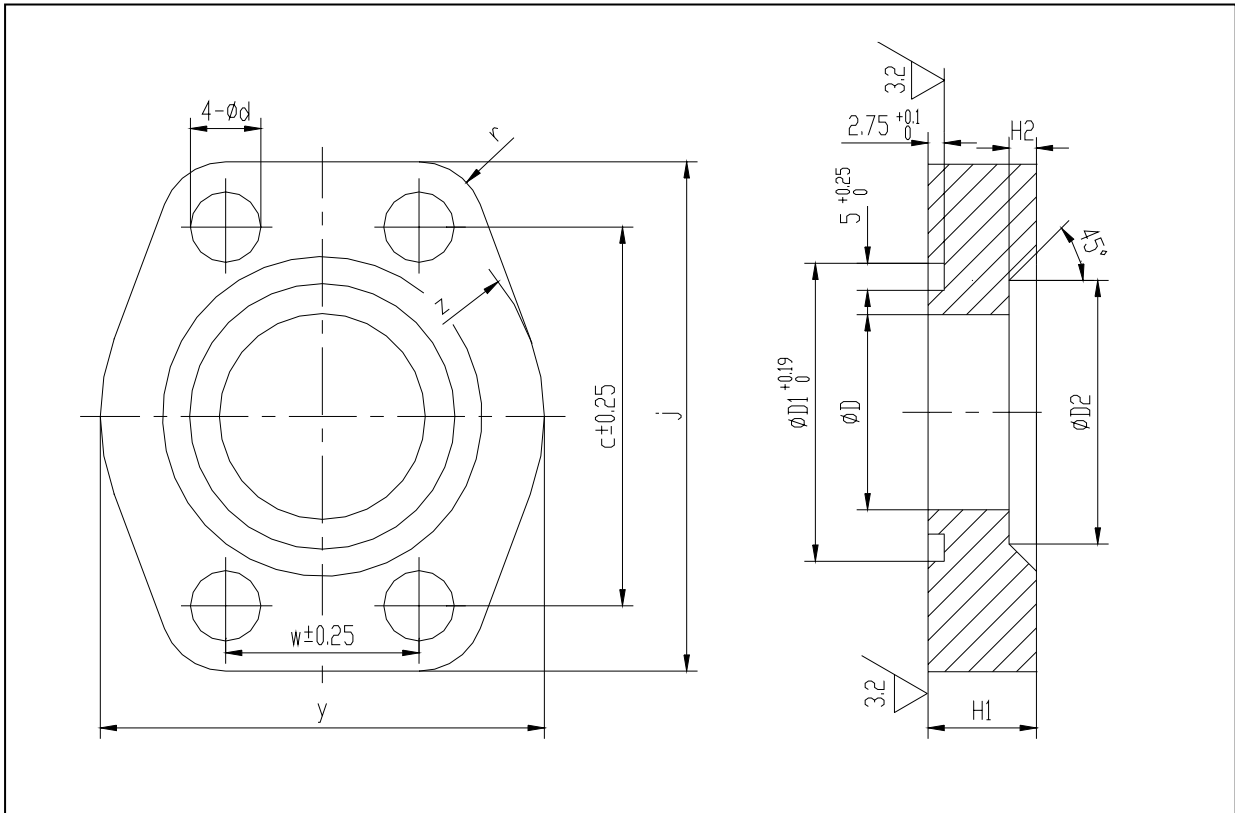
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Companion Straight Flange



Nominal Diameter	D	j	c	r	w	y	z	d	H1	H2	D1	D2	O Ring	Screw
DN25	25	70	52.4	9	26.2	59	29	11	15	5	39.6	34	32.5×3.55	M10×30
DN38	38	94	69.9	12	35.7	83	41	13	18	5	54.6	49	47.5×3.55	M12×35
DN51	51	102	42.9	13	77.8	90	50	13	20	5	66.1	61	58×3.55	M12×40
DN64	64	114	88.9	13	50.8	109	54	13	20	5	76.1	76	69×3.55	M12×40
DN76	76	135	106.4	14	61.9	131	66	18	25	7	92.1	90	85×3.55	M16×50
DN102	102	162	130.2	16	77.8	152	76	18	28	7	119.1	115	112×3.55	M16×55

Note: When the outer diameter of the pipe you choose is smaller than the pipe diameter of $\phi D2$, the size $\phi D2$ can be changed to smaller, make transition flange to connect the pipe

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