Politejo
Solutions for
a green future

EN

Solutions for a green future

LUSOFILTER

CD77R00

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The best thermoplastic solutions for infrastructure networks

Politejo

Politejo Group was founded in 1978, as an industry specialized in the manufacture of thermoplastic solutions and its main activity is the production of pipes and plastic accessories for the water supply, waste water, irrigation, electricity and telecommunications.

Our strategy is based on the constant innovation of products and services, with a skilled team, able to understand the needs associated with the various sectors and present highly reliable solutions, longevity that allow the conservation of water resources and the environment.

The success of Politejo Group is based on the profile of its employees, with a family-oriented management, due to the strategic location of its manufacturing units and their complete solutions.
This profile enabled a notable growth throughout the last 40 years, and currently Politejo Group is present in Angola, Brazil, Spain, Mozambique and Portugal, with a view to expandingto new locations.

LUSOFILTER

LusoFilter self-cleaning filters are specially designed to ensure constant selective filtration, guaranteeing the selected mesh at all times. With its patented system, it guarantees effective cleaning with low pressure requirements in all its filtration grades, which allows a very wide field of action.

Our filters can work with a filtration grade from 5 to 500 micron; their set of technologies manages to reduce the operating pressure and the volume of water needed for self-cleaning compared to other ring-filtering systems on the market.

LusoFilter filtration systems have been installed and demonstrated their efficiency in the following areas: agriculture, industry, wastewater, water treatment, sea water and specific uses such as fish farming and aquatic parks.

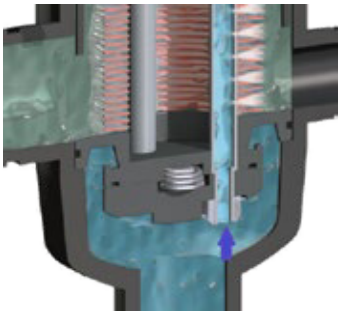
The differences and benefits that these ring filters have compared to those on the market are:

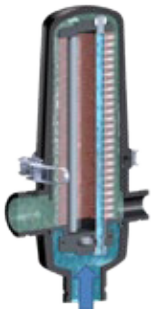
- Water saving due to less frequent washing
- Energy saving due to low filtration pressure and minimum pressure drop
- Maintenance free
- They are suitable for high pressure PN16
- Equipment configuration for large flows and very small volumes compared to other ring filtration systems.

Operation and technology of the "LusoFilter" filter

1 Rest

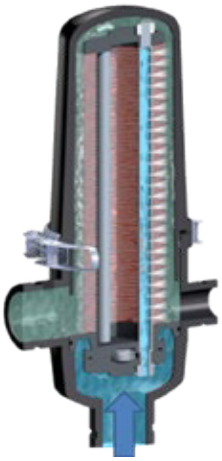
In this position, the cartridge rings remain compressed thanks to to the pressure exerted by the spring with the selector base.





2 Filtration

The water starts its journey through the side ports towards the outer chamber, passes through the rings (which retain solids) towards the inner chamber (clean water). The water is led to the bottom outlet by means of the pressure exerted on the spring, moving the selector base downwards.
In this way we achieve that the higher the inlet pressure, the greater the compression between the rings, thus ensuring the efficiency of the filtration.



3 Against washing

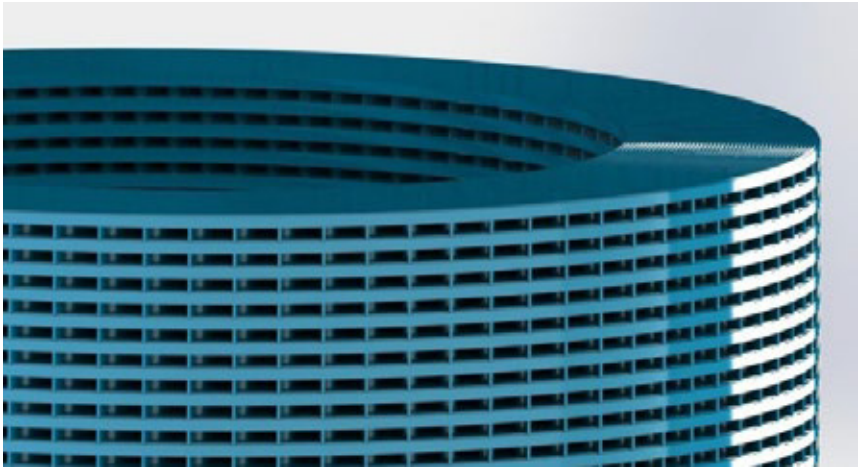
This process occurs when the water flow is reversed, the force of the water flow moves up the selector base and the flow of water into the inner chamber (clean water) is closed, flowing upwards towards the skimmer tubes. The scaler tubes have millimetric holes that distribute the water under pressure to the rings, increasing the pressure of the bottom bracket and the inside of the top support, which produces the opening of the scaler, the decompression of the rings together with the cyclonic effect which drags the particles outwards.

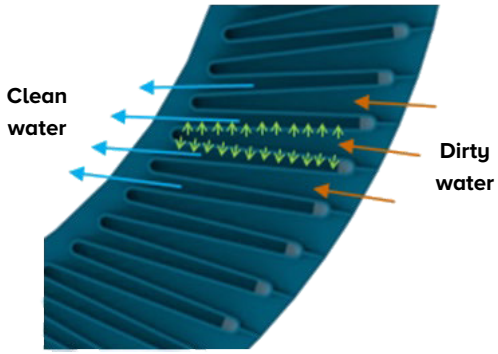
4 Adjustable cyclonic effect

This patented technology allows the tangential inlet of water to the filter to be regulated, allowing this effect to be adapted to the flow and degree of filtration with which each installation will work, ensuring optimum and unique cleaning in the ring filtration market.
With this effect, the densest particles do not reach the filtration zone, reducing considerably the flow speed of the rings and facilitating the elimination of these particles in the backwash.

5 Ring with maximum filtering surface

The ring used has two completely distinct faces, the main face consisting of a Zig-Zag which causes the inlet water to be channelled into the microchannels, achieving a 500 µm pre-filter at the ring inlet. These microchannels are oriented in a radial direction, ensuring that flow is created around the cartridge by sorting the particles entering the channels due to the cyclonic effect. The particles that manage to overcome the microchannels are found in the filtration zone, created by overlapping the microchannel walls on the back face of the ring. The back face of the ring is calibrated and defines the filtration degree of the equipment. The scaler outlet holes are oriented in the same way as the microchannels of the ring, Therefore, in the backwash process, the pressurised water coming from the exit of the scanner tubes in the same direction as the channel, removing dirt with ease.



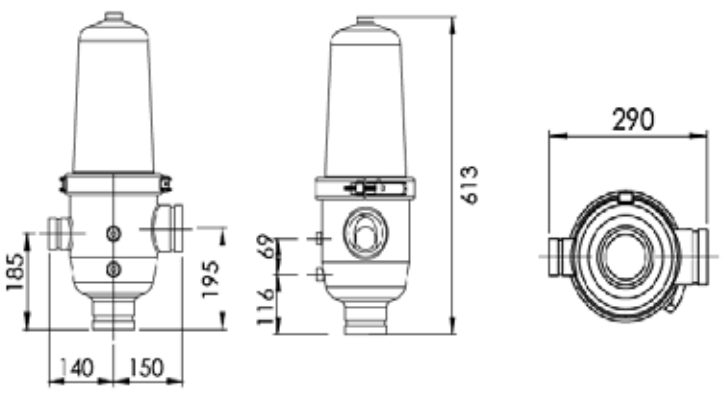


Degree of ring filtration

COLOR	MESH	MICROMETERS	UTILITIES
Oliva	30	500	Aspersion - Coarse filtration
Orange	40	400	Aspersion - Coarse filtration
Yellow	50	300	Sprinkling-Semi-coarse filtration
Celeste	75	200	Diff. Micro-sprinkler-Filt. mean
Grey	85	175	Micro-sprinklers-Medium filtration
Green	100	150	Micro-sprinklers-Medium/Fine filtration
Blue	120	125	Dripper-Medium/Fine filtration
Red	150	100	Dripper-Fine filtration
Brown	200	75	Tape/Dripper-Fine filtration
Black	300	50	Very fine filtration
Light green	750	20	Primary and tertiary water treatment
Sea green	3000	5	Drinking water - Ultra-fine filtration

Filter connection and size

The filter is composed of two chambers, one for unfiltered water and one for filtered water. The equipment has two main inlets to the unfiltered water chamber of 2" and 3", additionally two ¾" and ¼" pre-pierced sockets used for special applications. The filtered water chamber has a 3" outlet and a pre-pierced socket for when hydropneumatic cleaning is required.

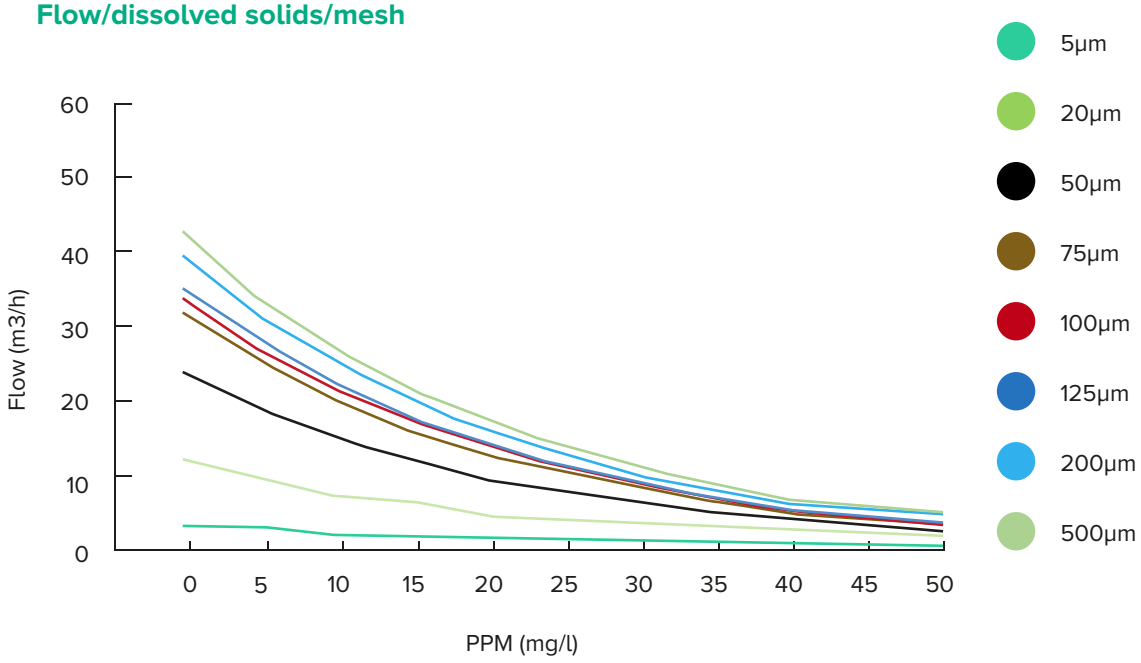


Number of filters to choose from

The number of filters required for our filtration equipment will depend on the required water flow rate, the ring mesh selected and the dissolved solids in the water.

WATER QUALITY	TDS (TOTAL DISSOLVED SOLIDS)
Good	10 ppm
Average	15 ppm
Bad	20 ppm
Very bad	25 ppm

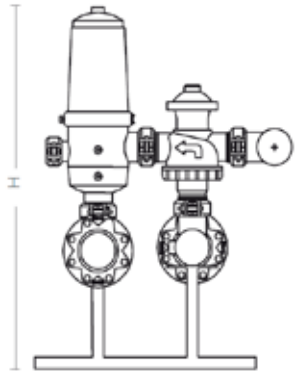
Flow/dissolved solids/mesh

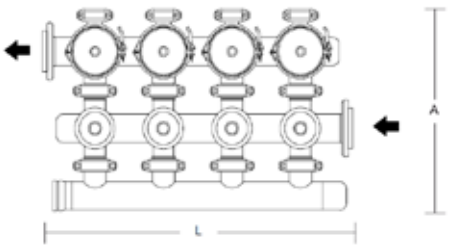


Automatic equipment on line

Configuration for small flows in installations up to 10 bar pressure. They require little flow for cleaning and this is carried out filter by filter. Tailor-made solutions requiring external water cleaning and/or pneumatic assistance are available.

N° de Filters	D. Valve (in)	D. collector (mm)	D. collector (in)	L (mm)	A (mm)	H (mm)	Weight (Kg)
2	2	110	4	695	680	1066	57
3	2	110	4	970	680	1066	78
4	2	110	4	1245	680	1066	99
5	2	110	4	1520	680	1066	120
6	2	110	4	1795	680	1066	141
2	3	110	4	695	780	1088	63
3	3	110	4	970	780	1088	84
3	3	160	6	970	780	1138	102
4	3	160	6	1245	780	1138	123
5	3	160	6	1520	780	1138	158
6	3	160	6	1795	780	1138	193
6	3	200	8	1795	780	1178	207
7	3	200	8	2070	780	1178	236
8	3	200	8	2345	780	1178	268
9	3	250	10	2730	780	1227	305
10	3	250	10	3005	780	1227	342

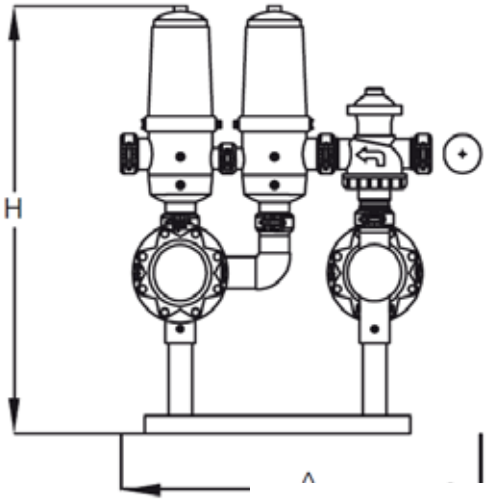


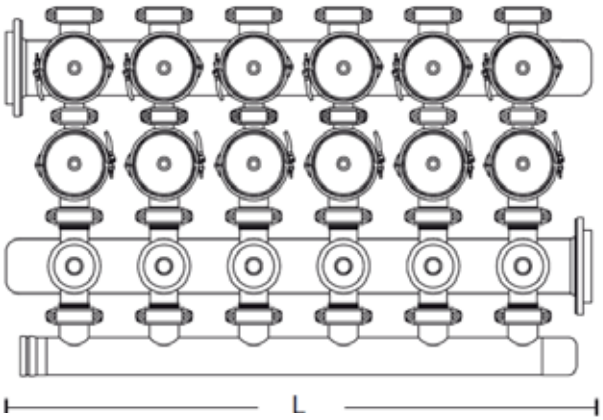


Automatic equipment in "V" shape

Configuration for intermediate flow rates in installations up to 10 bar pressure. Available at in PN16.
Paired filter arrangement, they take up less space and cleaning is done every 2 in 2.
There are customised solutions that require external water cleaning and/or pneumatic assistance.

N° de Filters	D. Valve (in)	D. collector (mm)	D. collector (in)	L (mm)	A (mm)	H (mm)	Weight (Kg)
8	3	160	6	1245	1073	1212	200
10	3	200	8	1520	1098	1303	258
12	3	200	8	1795	1098	1303	290
14	3	250	10	2070	1098	1303	392
16	3	250	10	2346	1098	1303	457

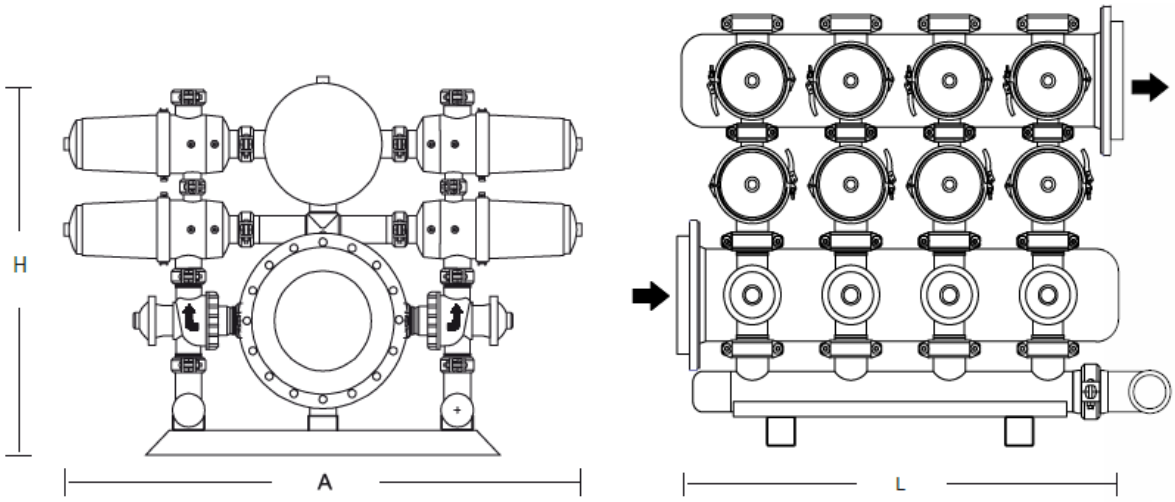




Automatic equipment in "H"

Configuration in horizontal arrangement for intermediate flow rates in installations up to 10 bar pressure. Available in PN16. Paired filter arrangement, they take up less space and cleaning is done every 2 in 2. Custom solutions are available requiring external water cleaning and/or pneumatic assistance.

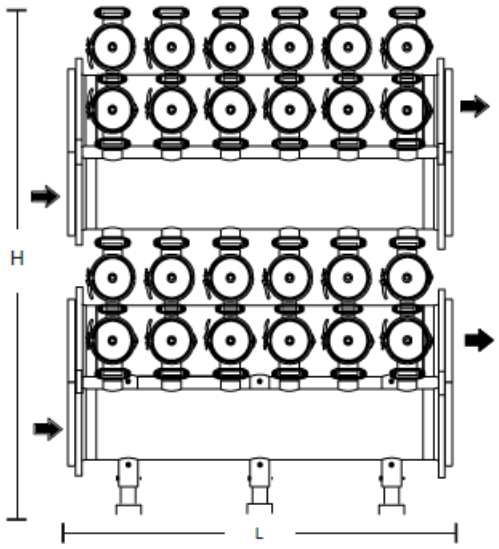
N° de Filters	D. Valve (in)	D. collector (mm)	D. collector (in)	L (mm)	A (mm)	H (mm)	Weight (Kg)
16	3	250	10	1377	1601	1163	366
20	3	315	12	1651	1666	1163	475
24	3	315	12	1927	1666	1163	551
28	3	355	14	2195	1706	1168	711
32	3	355	14	2470	1706	1168	812

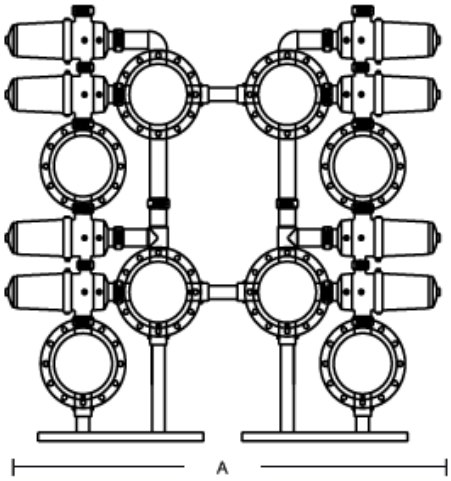


High Flow "V" automatic equipment

Configuration for plants with large flow rates, where cleaning is carried out by complete modules. In these cases, large hydraulic valves or butterfly valves actuated at the outlet of the collectors are used. Horizontal arrangement on both sides of the equipment. There are customised solutions that require cleaning with external water and/or pneumatic assistance.

N° de Filters	D. Valve (in)	D. collector (mm)	D. collector (in)	L (mm)	A (mm)	H (mm)	Weight (Kg)
1	16	200	8	1265	2056	2249	521
1	28	250	10	2090	2156	1137	962
1	40	315	12	2915	2286	1202	1417
2	48	355	14	1815	2366	2249	1721

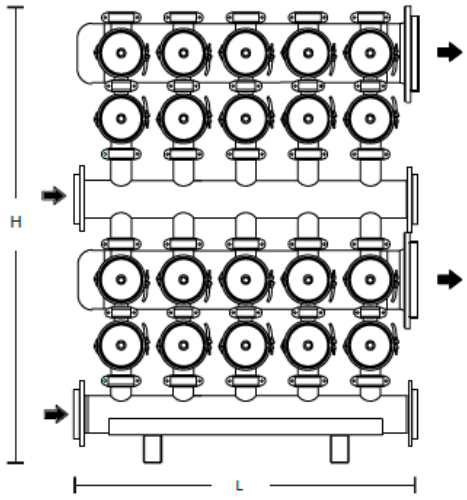


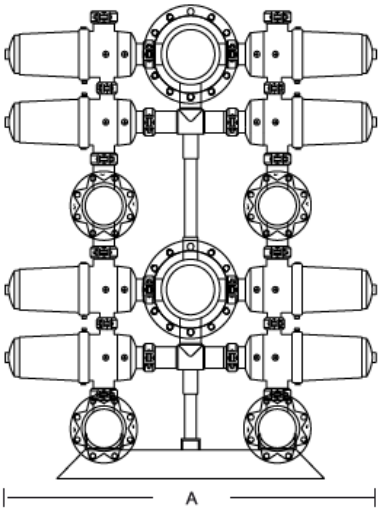


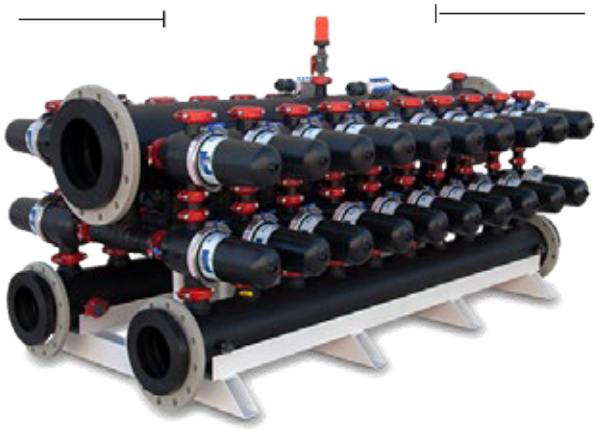
High Flow "H" automatic equipment

Configuration for plants with large flow rates, where cleaning is carried out by complete modules. In these cases, large hydraulic valves or butterfly valves actuated at the outlet of the collectors are used. Horizontal arrangement on both sides of the equipment. External water cleaning is not possible.

N° de Filters	D. Valve (in)	D. collector (mm)	D. collector (in)	L (mm)	A (mm)	H (mm)	Weight (Kg)
1	16	250	10	1377	1601	930	487
1	20	315	12	1651	1666	970	647
1	24	315	12	1927	1666	970+	742
1	28	355	14	2195	1706	1023	887
1	32	355	14	2470	1706	1023	1035
1	36	400	16	2745	1751	1023	1172
1	40	400	16	3020	1751	1023	1294
2	80	400	16	3020	1751	2174487	2564



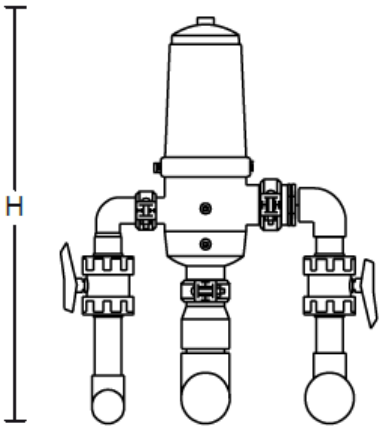


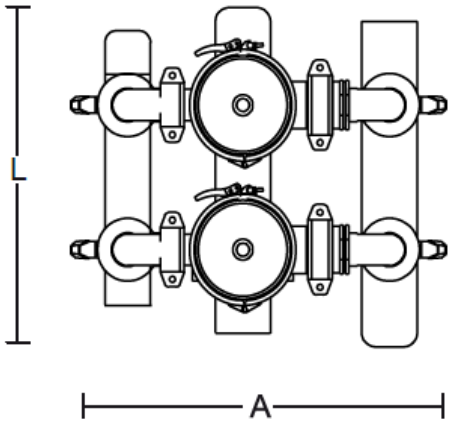


Semi-automatic equipment

Semi-automatic equipment with manually operated valves and PVC manifolds, in which the user decides the moment to clean according to the pressure reading before and after the filter.

Nº de Filters	D. Valve (in)	D. collector (mm)	D. collector (in)	L (mm)	A (mm)	H (mm)	Weight (Kg)
2	2	110	4	645	743	911	49
3	2	110	4	920	743	911	74
4	2	160	6	1195	743	953	99
5	2	160	6	1470	743	953	124
6	2	160	6	1745	743	953	149
7	2	200	8	2020	743	998	176
8	2	200	8	2295	743	998	201
9	2	200	8	2570	743	998	226





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