

Code:

9RD NN CC

9RD	Flow Divider Typology
NN	Number of elements
CC	Displacement Code

Example: Flow divider with two elements (same displacement)
RV-1D / 3.8 x 2

9RD 02 25

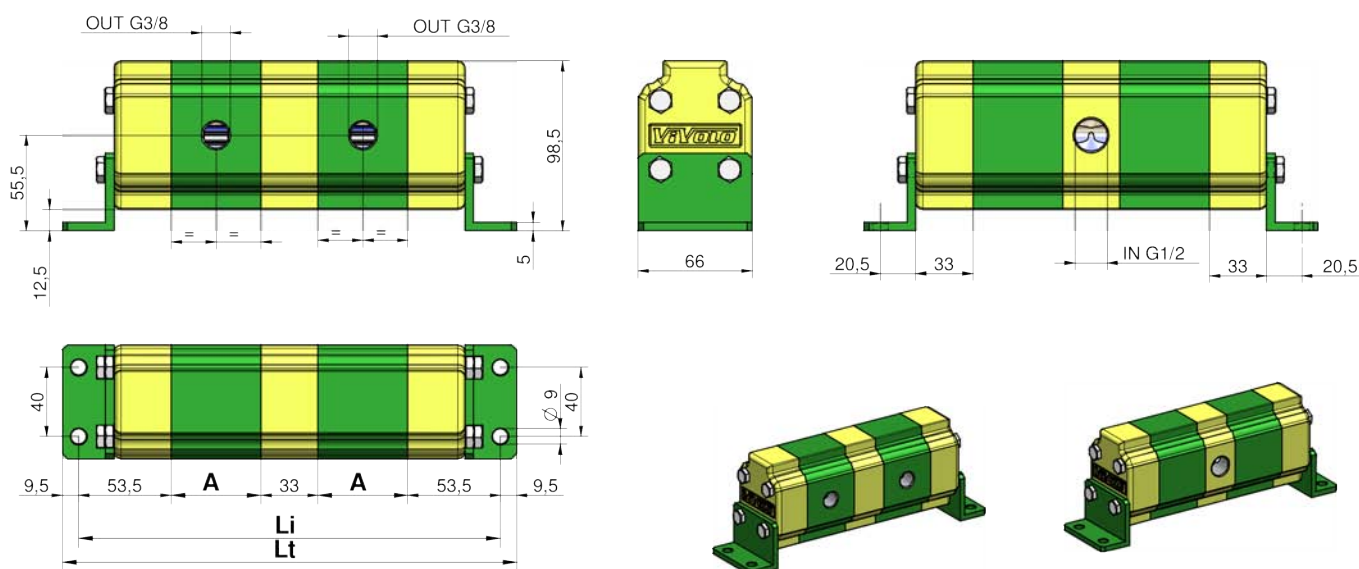
Example: Flow Divider with 4 elements (with different displacement - max 7):
RV-1D / 3,8+4,9+4,9+6,5

9RD 04 25 29 29 32

NOTE: to define codes for flow dividers with more than 7 different displacement, please contact our sales department.

Table: 1

Displacem. Cm ³ /rev	CC Code	Max Pressure bar	One element flow rate l/min		
			MIN	RECOMMENDED	MAX
0,9	16	220	1	2	6
1,2	17	220	1,5	3	7
1,7	18	220	2	4	9
2,2	20	220	2,5	5	13
2,6	21	220	3	6	15,5
3,2	23	220	3,5	7,5	18
3,8	25	220	4	8,5	21
4,3	27	220	4,5	9,5	23
4,9	29	220	5,5	11	27
5,9	31	220	6,5	13	30
6,5	32	220	7,5	14	32
7,8	34	210	8,5	16	35,5
9,8	36	200	11	20	41



REFERENCE: RD101

Table: 2

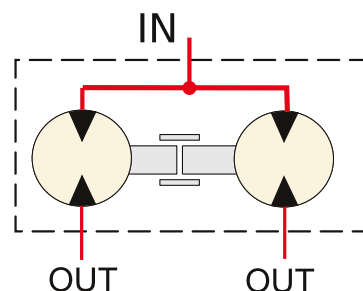
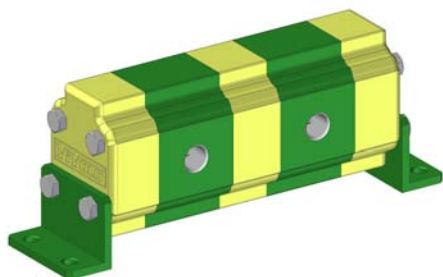
Li = Distance between fixing hole centres (single displacement flow divider)

Cm ³ /rev	A	Number of elements														
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0,9	41,5	223	297,5	372	446,5	521	595,5	670	744,5	819	893,5	968	1042,5	1117	1191,5	1266
1,2	42,5	225	300,5	376	451,5	527	602,5	678	753,5	829	904,5	980	1055,5	1131	1206,5	1282
1,7	44	228	305	382	459	536	613	690	767	844	921	998	1075	1152	1229	1306
2,2	46	232	311	390	469	548	627	706	785	864	943	1022	1101	1180	1259	1338
2,6	48	236	317	398	479	560	641	722	803	884	965	1046	1127	1208	1289	1370
3,2	50	240	323	406	489	572	655	738	821	904	987	1070	1153	1236	1319	1402
3,8	52	244	329	414	499	584	669	754	839	924	1009	1094	1179	1264	1349	1434
4,3	54	248	335	422	509	596	683	770	857	944	1031	1118	1205	1292	1379	1466
4,9	57	254	344	434	524	614	704	794	884	974	1064	1154	1244	1334	1424	1514
5,9	60,5	261	354,5	448	541,5	635	728,5	822	915,5	1009	1103	1196	1289,5	1383	1476,5	1570
6,5	63	266	362	458	554	650	746	842	938	1034	1130	1226	1322	1418	1514	1610
7,8	67	274	374	474	574	674	774	874	974	1074	1174	1274	1374	1474	1574	1674
9,8	76	292	401	510	619	728	837	946	1055	1164	1273	1382	1491	1600	1709	1818

Table: 3

in this table the number of inlets in function of the number of elements are indicated.

Number of elements	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
"IN" Number of inlets	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8

INTERNAL DRAIN


In **table 1** the functioning range of single flow divider elements is indicated.

The higher is the feeding capacity (q), the higher is the precision of the flow division, but in opposition there are losses of loading and higher noise. Therefore we suggest to feed the elements with capacities equal or a few superior to the ones indicated in the column **"RECOMMENDED"**.

Remember to verify the capacities even in phase of flow reunion.

The pressure indicated are to be considered as maximum of functioning, the flow divider is able to bear peaks of pressure 20 % superior.

How to calculate the "Li" and "Lt" measures of flow dividers:

From **table 2** it is possible to obtain the "Li" measure for flow dividers up to 16 elements with equal displacements; for flow dividers with different elements or with more than 16 elements the "Li" and "Lt" measure have to be calculated by the following formula:

$$Li = [(n-1) \times 33] + 107 + (A1 + A2 + A3 + \dots)$$

$$107 = 53,5 + 53,5$$

n = Number of elements of flow divider

$A1... An$ = heights of elements of flow divider

$$Lt = Li + 19$$

$$19 = 9,5 + 9,5$$

EXAMPLE: To obtain the measures **Li** and **Lt** of a flow divider with three elements ($n=3$), **RV-1D 4,3 + 2,2 + 0,9**

Distance between fixing hole centres

$$Li = [(3-1) \times 33] + 107 + 54 + 46 + 41,5 = 314,5 \text{ mm}$$

Total Length

$$Lt = 314,5 + 19 = 333,5$$

In **table 3** the number of inlets in function of the number of elements are indicated.

For flow dividers with many inlets, as they are all communicating it is even possible to use only one of them, by plugging the other ones. We suggest to make full use at least of **1** inlet every **40 l/min** capacity.

To obtain errors of division **inferior to 3%** there must be no difference of pressure between the elements superior to **30 bar**. To obtain high precisions the respect of the following parameters is also important:

- Environment temperature: $-10^{\circ}\text{C} \div +60^{\circ}\text{C}$ Oil temperature: $+30^{\circ}\text{C} \div +60^{\circ}\text{C}$
- Hydraulic oil based on hlp, hv (din 51524) minerals Oil Viscosity $20 \div 40 \text{ cSt}$
- Oil filtering $10 \div 25 \mu$

Code:

9RS	NN	M	CC
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9RD	Flow Divider Typology
NN	Number of elements
M	Code of setting range of the valves
CC	Displacement Code

TABLE "M"	
C	10 ÷ 105 bar
D	70 ÷ 210 bar
E	140 ÷ 350 bar

Example: Flow divider with two elements (same displacement)
 RV-1S / 3,8 x 2 with valve 10 ÷ 105 bar

9RS	02	C	25
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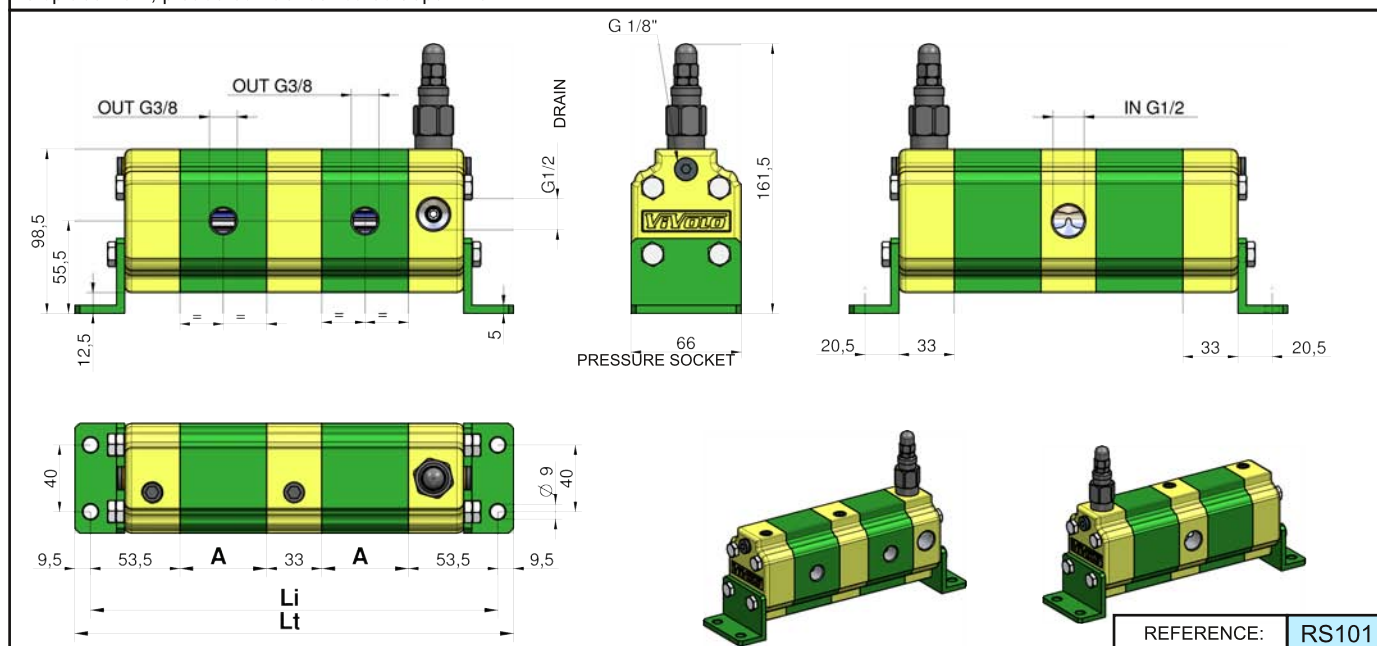
Example: Flow Divider with 4 elements (with different displacement - max 7):
 RV-1S / 3,8+4,9+4,9+6,5 with valve 70 ÷ 210 bar

9RS	04	D	25	29	29	32
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NOTE: to define codes for flow dividers with more than 7 different displacement, please contact our sales department.

Table: 1

Displacem. Cm ³ /rev	CC Code	Max Pressure bar	One element flow rate l/min		
			MIN	RECOMMENDED	MAX
0,9	16	220	1	2	6
1,2	17	220	1,5	3	7
1,7	18	220	2	4	9
2,2	20	220	2,5	5	13
2,6	21	220	3	6	15,5
3,2	23	220	3,5	7,5	18
3,8	25	220	4	8,5	21
4,3	27	220	4,5	9,5	23
4,9	29	220	5,5	11	27
5,9	31	220	6,5	13	30
6,5	32	220	7,5	14	32
7,8	34	210	8,5	16	35,5
9,8	36	200	11	20	41


Table: 2

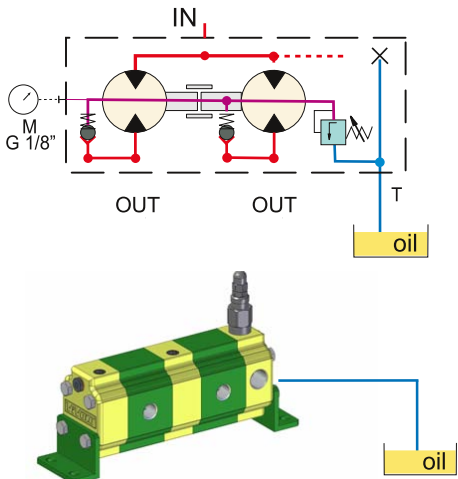
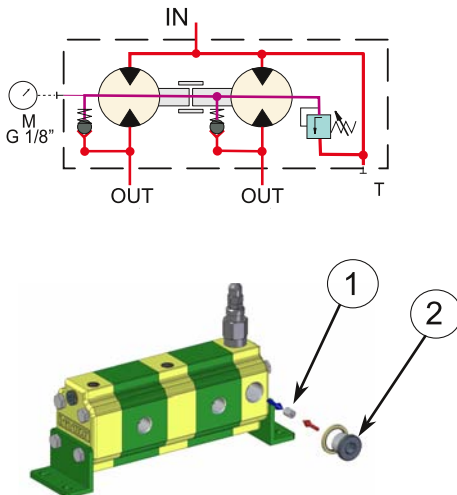
Li = Distance between fixing hole centres (single displacement flow divider)

Cm ³ /rev	A	Number of elements														
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0,9	41,5	223	297,5	372	446,5	521	595,5	670	744,5	819	893,5	968	1042,5	1117	1191,5	1266
1,2	42,5	225	300,5	376	451,5	527	602,5	678	753,5	829	904,5	980	1055,5	1131	1206,5	1282
1,7	44	228	305	382	459	536	613	690	767	844	921	998	1075	1152	1229	1306
2,2	46	232	311	390	469	548	627	706	785	864	943	1022	1101	1180	1259	1338
2,6	48	236	317	398	479	560	641	722	803	884	965	1046	1127	1208	1289	1370
3,2	50	240	323	406	489	572	655	738	821	904	987	1070	1153	1236	1319	1402
3,8	52	244	329	414	499	584	669	754	839	924	1009	1094	1179	1264	1349	1434
4,3	54	248	335	422	509	596	683	770	857	944	1031	1118	1205	1292	1379	1466
4,9	57	254	344	434	524	614	704	794	884	974	1064	1154	1244	1334	1424	1514
5,9	60,5	261	354,5	448	541,5	635	728,5	822	915,5	1009	1103	1196	1289,5	1383	1476,5	1570
6,5	63	266	362	458	554	650	746	842	938	1034	1130	1226	1322	1418	1514	1610
7,8	67	274	374	474	574	674	774	874	974	1074	1174	1274	1374	1474	1574	1674
9,8	76	292	401	510	619	728	837	946	1055	1164	1273	1382	1491	1600	1709	1818

Table: 3

in this table the number of inlets in function of the number of elements are indicated.

Number of elements	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
"IN" Number of inlets	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8

EXTERNAL DRAIN <i>STANDARD SETUP</i>	INTERNAL DRAIN
Connect the drain port (T) to the tank	To predispose the divider to the internal drain, execute following operations: 1. remove the G 1/8 dowel inside the drain port 2. with a 1/2 G plug, plug the drain port (T)
	

In **table 1** the functioning range of single flow divider elements is indicated.

The higher is the feeding capacity (q), the higher is the precision of the flow division, but in opposition there are losses of loading and higher noise. Therefore we suggest to feed the elements with capacities equal or a few superior to the ones indicated in the column **"RECOMMENDED"**.

Remember to verify the capacities even in phase of flow reunion.

The pressure indicated are to be considered as maximum of functioning, the flow divider is able to bear peaks of pressure 20 % superior.

How to calculate the "Li" and "Lt" measures of flow dividers:

From **table 2** it is possible to obtain the "Li" measure for flow dividers up to 16 elements with equal displacements; for flow dividers with different elements or with more than 16 elements the "Li" and "Lt" measure have to be calculated by the following formula:

$$Li = [(n-1) \times 33] + 107 + (A1 + A2 + A3 + \dots)$$

$$107 = 53,5 + 53,5$$

n = Number of elements of flow divider

A1... An = heights of elements of flow divider

$$Lt = Li + 19$$

$$19 = 9,5 + 9,5$$

EXAMPLE: To obtain the measures **Li** and **Lt** of a flow divider with three elements (n=3), **RV-1S 4.3 + 2.2 + 0.9**

Distance between fixing hole centres

$$Li = [(3-1) \times 33] + 107 + 54 + 46 + 41,5 = 314,5 \text{ mm}$$

Total Length

$$Lt = 314,5 + 19 = 333,5$$

In **table 3** the number of inlets in function of the number of elements are indicated.

For flow dividers with many inlets, as they are all communicating it is even possible to use only one of them, by plugging the other ones. We suggest to make full use at least of **1** inlet every **40 l/min** capacity.

To obtain errors of division **inferior to 3%** there must be no difference of pressure between the elements superior to **30 bar**. To obtain high precisions the respect of the following parameters is also important:

- Environment temperature: -10°C ÷ +60°C Oil temperature: +30°C ÷ +60°C
- Hydraulic oil based on hlp, hv (din 51524) minerals Oil Viscosity 20 ÷ 40 cSt
- Oil filtering 10 ÷ 25 µ

Code:

9RV	NN	M	CC
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9RV	Flow Divider Typology
NN	Number of elements
M	Code of setting range of the valves
CC	Displacement Code

TABLE "M"	
A	7 ÷ 210 bar
B	105 ÷ 420 bar

Example: Flow divider with two elements (same displacement)
RV-1V / 3,8 x 2 with valve 7 ÷ 210 bar

9RV	02	A	25
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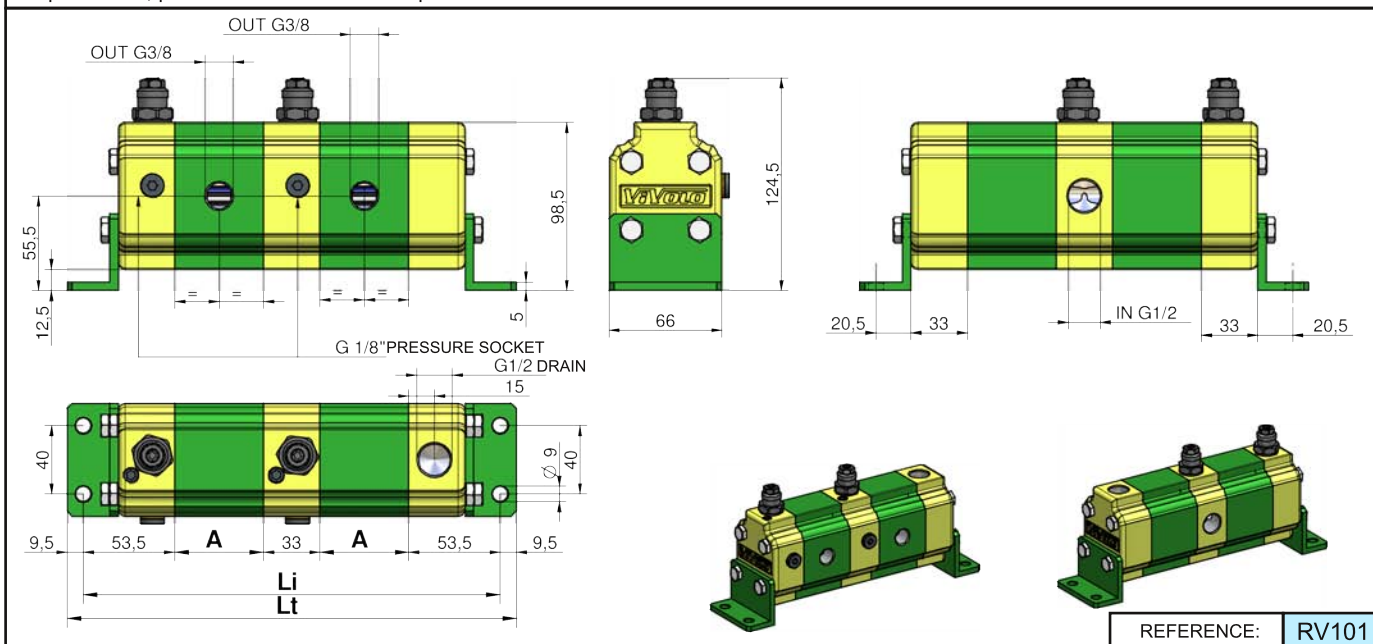
Example: Flow Divider with 4 elements (with different displacement - max 7):
RV-1V / 3,8+4,9+4,9+6,5 with valve 105 ÷ 420 bar

9RV	04	B	25	29	29	32
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NOTE: to define codes for flow dividers with more than 7 different displacement, please contact our sales department.

Table: 1

Displacem. Cm ³ /rev	CC Code	Max Pressure bar	One element flow rate l/min		
			MIN	RECOMMENDED	MAX
0,9	16	220	1	2	6
1,2	17	220	1,5	3	7
1,7	18	220	2	4	9
2,2	20	220	2,5	5	13
2,6	21	220	3	6	15,5
3,2	23	220	3,5	7,5	18
3,8	25	220	4	8,5	21
4,3	27	220	4,5	9,5	23
4,9	29	220	5,5	11	27
5,9	31	220	6,5	13	30
6,5	32	220	7,5	14	32
7,8	34	210	8,5	16	35,5
9,8	36	200	11	20	41


Table: 2

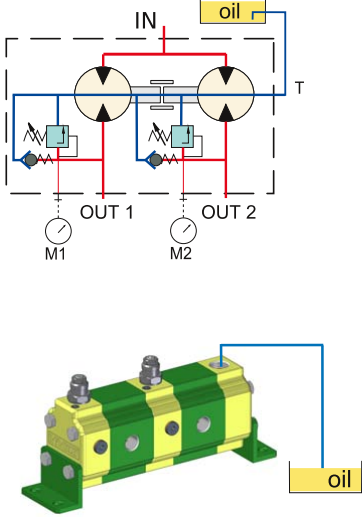
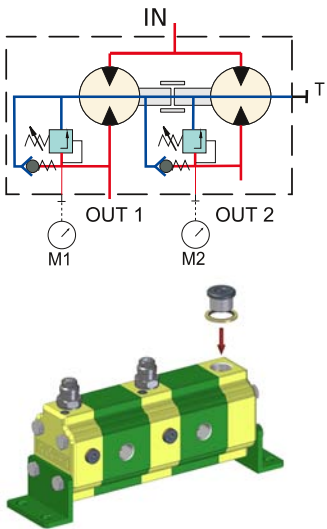
Li = Distance between fixing hole centres (single displacement flow divider)

Cm ³ /rev	A	Number of elements														
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0,9	41,5	223	297,5	372	446,5	521	595,5	670	744,5	819	893,5	968	1042,5	1117	1191,5	1266
1,2	42,5	225	300,5	376	451,5	527	602,5	678	753,5	829	904,5	980	1055,5	1131	1206,5	1282
1,7	44	228	305	382	459	536	613	690	767	844	921	998	1075	1152	1229	1306
2,2	46	232	311	390	469	548	627	706	785	864	943	1022	1101	1180	1259	1338
2,6	48	236	317	398	479	560	641	722	803	884	965	1046	1127	1208	1289	1370
3,2	50	240	323	406	489	572	655	738	821	904	987	1070	1153	1236	1319	1402
3,8	52	244	329	414	499	584	669	754	839	924	1009	1094	1179	1264	1349	1434
4,3	54	248	335	422	509	596	683	770	857	944	1031	1118	1205	1292	1379	1466
4,9	57	254	344	434	524	614	704	794	884	974	1064	1154	1244	1334	1424	1514
5,9	60,5	261	354,5	448	541,5	635	728,5	822	915,5	1009	1103	1196	1289,5	1383	1476,5	1570
6,5	63	266	362	458	554	650	746	842	938	1034	1130	1226	1322	1418	1514	1610
7,8	67	274	374	474	574	674	774	874	974	1074	1174	1274	1374	1474	1574	1674
9,8	76	292	401	510	619	728	837	946	1055	1164	1273	1382	1491	1600	1709	1818

Table: 3

in this table the number of inlets in function of the number of elements are indicated.

Number of elements	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
"IN" Number of inlets	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8

EXTERNAL DRAIN <i>STANDARD SETUP</i>	INTERNAL DRAIN
For the correct functioning of the flow divider, it has to be installed <i>under the oil level</i>. The drain tube has to pick up under the oil level and it has not to aspire air.	To predispose the divider to the internal drain, plug the 1/2 G drain port (T) Note: with this configuration the function of anticavitation valves is annulled
	

In **table 1** the functioning range of single flow divider elements is indicated.

The higher is the feeding capacity (q), the higher is the precision of the flow division, but in opposition there are losses of loading and higher noise. Therefore we suggest to feed the elements with capacities equal or a few superior to the ones indicated in the column **"RECOMMENDED"**.

Remember to verify the capacities even in phase of flow reunion.

The pressure indicated are to be considered as maximum of functioning, the flow divider is able to bear peaks of pressure 20 % superior.

How to calculate the "Li" and "Lt" measures of flow dividers:

From **table 2** it is possible to obtain the "Li" measure for flow dividers up to 16 elements with equal displacements; for flow dividers with different elements or with more than 16 elements the "Li" and "Lt" measure have to be calculated by the following formula:

$$Li = [(n-1) \times 33] + 107 + (A1 + A2 + A3 + \dots)$$

$$107 = 53,5 + 53,5$$

n = Number of elements of flow divider

A1... An = heights of elements of flow divider

$$Lt = Li + 19$$

$$19 = 9,5 + 9,5$$

EXAMPLE: To obtain the measures **Li** and **Lt** of a flow divider with three elements (n=3), **RV-1V 4.3 + 2.2 + 0.9**

Distance between fixing hole centres

$$Li = [(3-1) \times 33] + 107 + 54 + 46 + 41,5 = 314,5 \text{ mm}$$

Total Length

$$Lt = 314,5 + 19 = 333,5$$

In **table 3** the number of inlets in function of the number of elements are indicated.

For flow dividers with many inlets, as they are all communicating it is even possible to use only one of them, by plugging the other ones. We suggest to make full use at least of **1** inlet every **40 l/min** capacity.

To obtain errors of division **inferior to 3%** there must be no difference of pressure between the elements superior to **30 bar**. To obtain high precisions the respect of the following parameters is also important:

- Environment temperature: -10°C ÷ +60°C Oil temperature: +30°C ÷ +60°C
- Hydraulic oil based on hlp, hv (din 51524) minerals Oil Viscosity 20 ÷ 40 cSt
- Oil filtering 10 ÷ 25 µ

Code:

9RG	NN	O	CC	CC
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9RG	Flow Divider Typology
NN	Number of flow divider elements
O	Number of motor elements
CC	Motor Displacement Code
CC	Flow Divider Displacement Code

Example: Flow divider with two elements (same displacement) and Motor
RV-1G / 3,8 x 2 + 1 Motor 7.8

9RG	02	1	34	25
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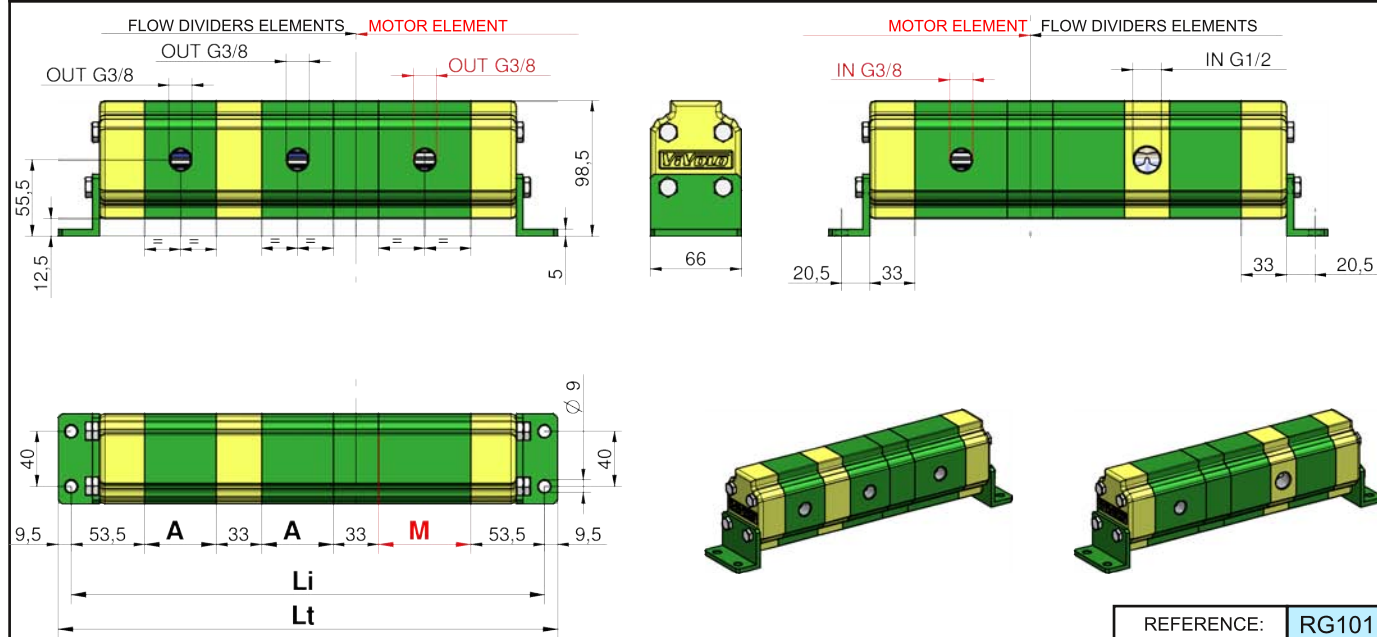
Example: Flow Divider 4 elements (different displacement - max 6) and Motor:
RV-1G / 3,8+4,9+4,9+6,5 + 1 Motor 9,8

9RG	04	1	36	25	29	29	32
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NOTE: to define codes for flow dividers with more than 6 different displacement, please contact our sales department.

Table: 1

Displacem. Cm ³ /rev	CC Code	Max Pressure bar	One element flow rate l/min		
			MIN	RECOMMENDED	MAX
0,9	16	220	1	2	6
1,2	17	220	1,5	3	7
1,7	18	220	2	4	9
2,2	20	220	2,5	5	13
2,6	21	220	3	6	15,5
3,2	23	220	3,5	7,5	18
3,8	25	220	4	8,5	21
4,3	27	220	4,5	9,5	23
4,9	29	220	5,5	11	27
5,9	31	220	6,5	13	30
6,5	32	220	7,5	14	32
7,8	34	210	8,5	16	35,5
9,8	36	200	11	20	41


Table: 2

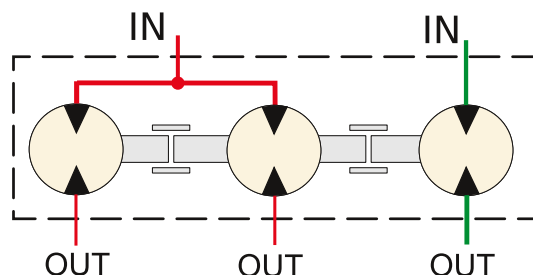
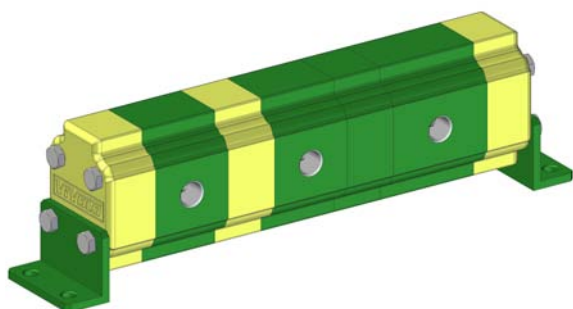
Li = Distance between fixing hole centres (single displacement flow divider)

Cm ³ /rev	A-M	Number of elements														
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0,9	41,5	223	297,5	372	446,5	521	595,5	670	744,5	819	893,5	968	1042,5	1117	1191,5	1266
1,2	42,5	225	300,5	376	451,5	527	602,5	678	753,5	829	904,5	980	1055,5	1131	1206,5	1282
1,7	44	228	305	382	459	536	613	690	767	844	921	998	1075	1152	1229	1306
2,2	46	232	311	390	469	548	627	706	785	864	943	1022	1101	1180	1259	1338
2,6	48	236	317	398	479	560	641	722	803	884	965	1046	1127	1208	1289	1370
3,2	50	240	323	406	489	572	655	738	821	904	987	1070	1153	1236	1319	1402
3,8	52	244	329	414	499	584	669	754	839	924	1009	1094	1179	1264	1349	1434
4,3	54	248	335	422	509	596	683	770	857	944	1031	1118	1205	1292	1379	1466
4,9	57	254	344	434	524	614	704	794	884	974	1064	1154	1244	1334	1424	1514
5,9	60,5	261	354,5	448	541,5	635	728,5	822	915,5	1009	1103	1196	1289,5	1383	1476,5	1570
6,5	63	266	362	458	554	650	746	842	938	1034	1130	1226	1322	1418	1514	1610
7,8	67	274	374	474	574	674	774	874	974	1074	1174	1274	1374	1474	1574	1674
9,8	76	292	401	510	619	728	837	946	1055	1164	1273	1382	1491	1600	1709	1818

Table: 3

in this table the number of inlets in function of the number of elements are indicated.

Number of elements	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
"IN" Number of inlets	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8

INTERNAL DRAIN


In **table 1** the functioning range of single flow divider elements is indicated.

The higher is the feeding capacity (q), the higher is the precision of the flow division, but in opposition there are losses of loading and higher noise. Therefore we suggest to feed the elements with capacities equal or a few superior to the ones indicated in the column **"RECOMMENDED"**.

Remember to verify the capacities even in phase of flow reunion.

The pressure indicated are to be considered as maximum of functioning, the flow divider is able to bear peaks of pressure 20 % superior.

How to calculate the "Li" and "Lt" measures of flow dividers:

From **table 2** it is possible to obtain the "Li" measure for flow dividers up to 16 elements with equal displacements; for flow dividers with different elements or with more than 16 elements the "Li" and "Lt" measure have to be calculated by the following formula:

$$Li = [(n-1) \times 33] + 107 + (A1 + A2 + A3 + \dots)$$

$$107 = 53,5 + 53,5$$

n = Number of elements of flow divider

$A1 \dots An$ = heights of elements of flow divider

$$Lt = Li + 19$$

$$19 = 9,5 + 9,5$$

EXAMPLE: To obtain the measures **Li** and **Lt** of a flow divider with three elements ($n=3$), **RV-1G / 3,8 x 2+ 1 MOTOR 7,8**

Distance between fixing hole centres

$$Li = [(3-1) \times 33] + 107 + 52 + 52 + 67 = 344 \text{ mm}$$

Total Length

$$Lt = 344 + 19 = 363$$

In **table 3** the number of inlets in function of the number of elements are indicated.

For flow dividers with many inlets, as they are all communicating it is even possible to use only one of them, by plugging the other ones. We suggest to make full use at least of **1** inlet every **40 l/min** capacity.

To obtain errors of division **inferior to 3%** there must be no difference of pressure between the elements superior to **30 bar**. To obtain high precisions the respect of the following parameters is also important:

- Environment temperature: $-10^{\circ}\text{C} \div +60^{\circ}\text{C}$ Oil temperature: $+30^{\circ}\text{C} \div +60^{\circ}\text{C}$
- Hydraulic oil based on hlp, hv (din 51524) minerals Oil Viscosity $20 \div 40 \text{ cSt}$
- Oil filtering $10 \div 25 \mu$

Code:

9RG	NN	O	CC	CC
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9RG	Flow Divider Typology
NN	Number of flow divider elements
O	Number of motor elements
CM	Motor Displacement Code
CC	Flow Divider Displacement Code

Example: Flow divider with two elements (same displacement) and Motor
RV-1G / 7,8 x 2 + 1 Motor 17 cc

9RG	02	1	51	34
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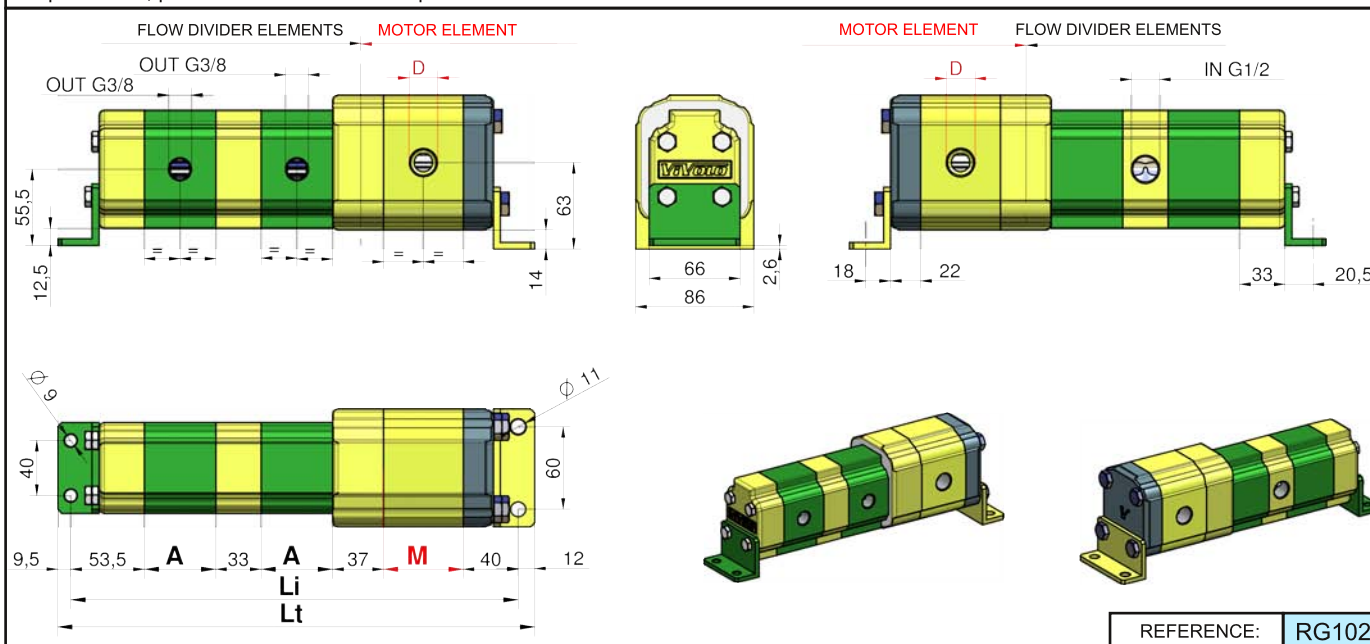
Example: Flow Divider 4 elements (different displacement max 6) and Motor
RV-1G / 3,8+4,9+4,9+6,5+1 Motor 22 cc

9RG	04	1	55	25	29	29	32
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NOTE: to define codes for flow dividers with more than 6 different displacement, please contact our sales department.

Table: 1

Displacem. Cm ³ /rev	CC Code	Max Pressure bar	One element flow rate l/min		
			MIN	RECOMMENDED	MAX
0,9	16	220	1	2	6
1,2	17	220	1,5	3	7
1,7	18	220	2	4	9
2,2	20	220	2,5	5	13
2,6	21	220	3	6	15,5
3,2	23	220	3,5	7,5	18
3,8	25	220	4	8,5	21
4,3	27	220	4,5	9,5	23
4,9	29	220	5,5	11	27
5,9	31	220	6,5	13	30
6,5	32	220	7,5	14	32
7,8	34	210	8,5	16	35,5
9,8	36	200	11	20	41



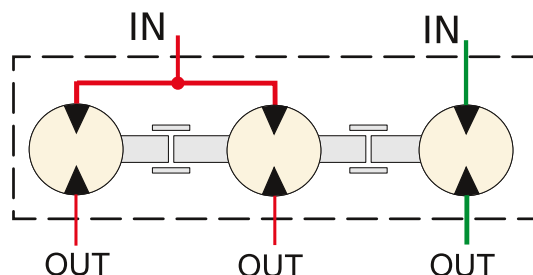
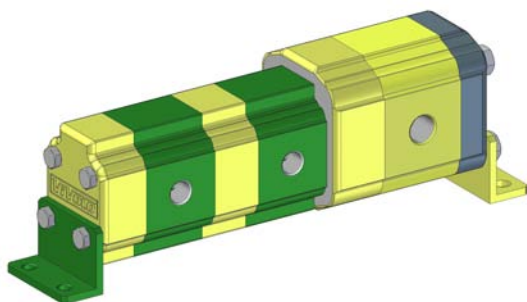
Cm ³ /giro	A
0,9	41,5
1,2	42,5
1,7	44
2,2	46
2,6	48
3,2	50
3,8	52
4,3	54
4,9	57
5,9	60,5
6,5	63
7,8	67
9,8	76

Cm ³ /giro	CM	M	D
4	41	47	1/2" BSP
6	43	50	1/2" BSP
9	45	54	1/2" BSP
11	47	58	1/2" BSP
14	49	64	3/4" BSP
17	51	68	3/4" BSP
19	53	72	3/4" BSP
22	55	78	3/4" BSP
26	57	82	1" BSP
30	59	90	1" BSP
34	61	97	1" BSP
40	63	106	1" BSP

Table: 3

in this table the number of inlets in function of the number of elements are indicated.

Number of elements	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
"IN" Number of inlets	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8

INTERNAL DRAIN


In **table 1** the functioning range of single flow divider elements is indicated.

The higher is the feeding capacity (q), the higher is the precision of the flow division, but in opposition there are losses of loading and higher noise. Therefore we suggest to feed the elements with capacities equal or a few superior to the ones indicated in the column **"RECOMMENDED"**.

Remember to verify the capacities even in phase of flow reunion.

The pressure indicated are to be considered as maximum of functioning, the flow divider is able to bear peaks of pressure 20 % superior.

How to calculate the "Li" and "Lt" measures of flow dividers:

$$Li = [(n-1) \times 33] + 130,5 + (M1 + M2 + M3 + \dots) + (A1 + A2 + A3 + \dots)$$

$$Lt = Li + 21,5$$

$$130,5 = 53,5 + 37 + 40$$

n = Numero di elementi del divisore

A1... An = altezze elementi divisore

M1... Mn = altezze elementi motore

$$21,5 = 9,5 + 12$$

EXAMPLE: To obtain the measures **Li** and **Lt** of a flow divider with three elements ($n=3$), **RV-1G / 3,8 x 2+ 1 MOTOR 11**

Distance between fixing hole centres

$$Li = [(2-1) \times 33] + 130,5 + 47 + 52 + 52 = 314,5 \text{ mm}$$

Total Length

$$Lt = 314,5 + 21,5 = 336$$

In **table 3** the number of inlets in fuction of the number of elements are indicated.

For flow dividers with many inlets, as they are all communicating it is even possible to use only one of them, by plugging the other ones. We suggest to make full us at least of **1** inlet every **40 l/min** capacity.

To obtain errors of division **inferior to 3%** there must be no difference of pressure between the elements superior to **30 bar**. To obtain high precisions the respect of the following parametres is also important:

- Enviroment temperature: $-10^{\circ}\text{C} \div +60^{\circ}\text{C}$ Oil temperature: $+30^{\circ}\text{C} \div +60^{\circ}\text{C}$
- Hydraulic oil based on hlp, hv (din 51524) minerals Oil Viscosity $20 \div 40 \text{ cSt}$
- Oil filtering $10 \div 25 \mu$

Codice:

9RN	NN	M	O	CC	CC
-----	----	---	---	----	----

9RN	Tipo Divisore
NN	Numero di Elementi Divisore
M	Codice campo taratura valvola
O	Numero di Elementi MOTORE
CC	Codice della cilindrata dei MOTORI
CC	Codice della cilindrata degli Elementi Divisore

Esempio: Divisore a 2 elementi con cilindrata uguale:

RV-1H / 3,8 x 2 CON VALVOLA 10 ÷ 105 bar + 1 MOTORE 7,8

9RH	02	C	1	34	25
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Esempio: Divisore a 4 elementi con cilindrata diverse (max 6):

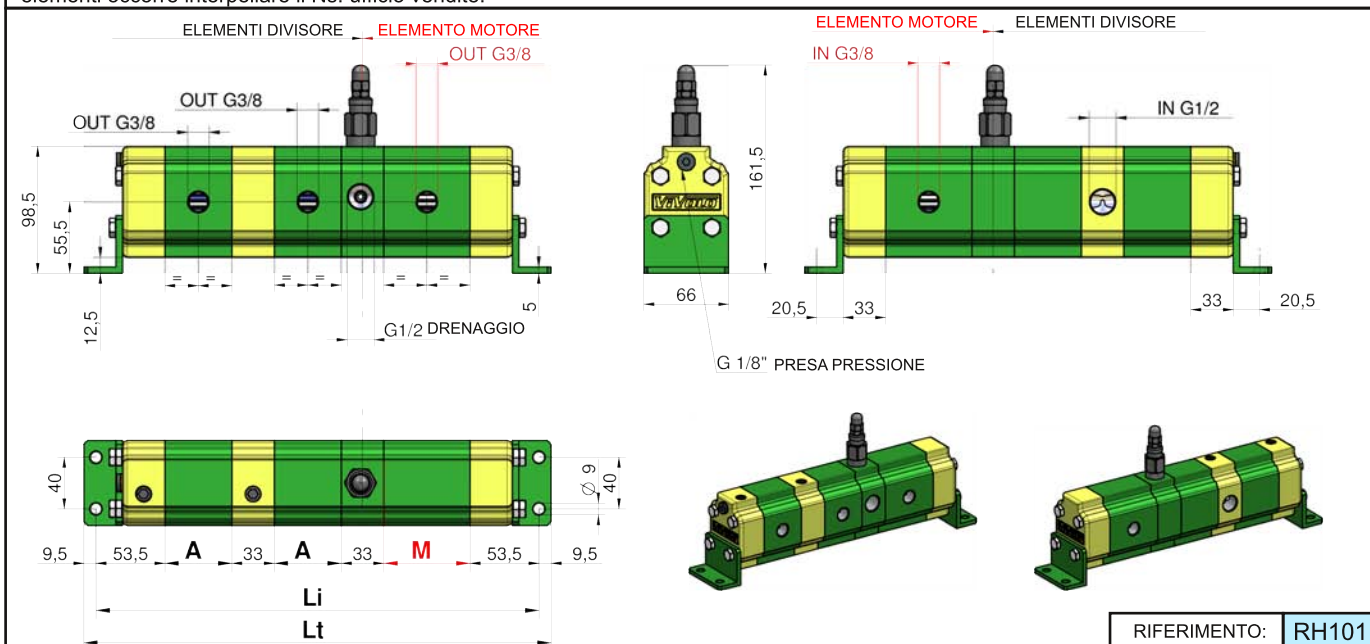
RV-1H / 3,8+4,9+4,9 CON VALVOLA 70 ÷ 210 bar + 1 MOTORE 6,5

9RH	03	D	1	32	25	29	29
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NOTA: per codificare divisori con cilindrata diverse a più di 6 elementi occorre interpellare il Ns. ufficio vendite.

Tabella: 1

Cilindrata Cm ³ /giro	CC Codice	Pressione max bar	Portata di un elemento l/min		
			MIN	CONSIGLIATA	MAX
0,9	16	220	1	2	6
1,2	17	220	1,5	3	7
1,7	18	220	2	4	9
2,2	20	220	2,5	5	13
2,6	21	220	3	6	15,5
3,2	23	220	3,5	7,5	18
3,8	25	220	4	8,5	21
4,3	27	220	4,5	9,5	23
4,9	29	220	5,5	11	27
5,9	31	220	6,5	13	30
6,5	32	220	7,5	14	32
7,8	34	210	8,5	16	35,5
9,8	36	200	11	20	41


Tabella: 2

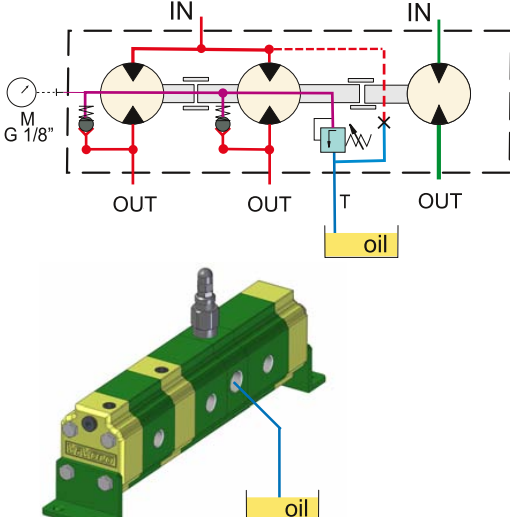
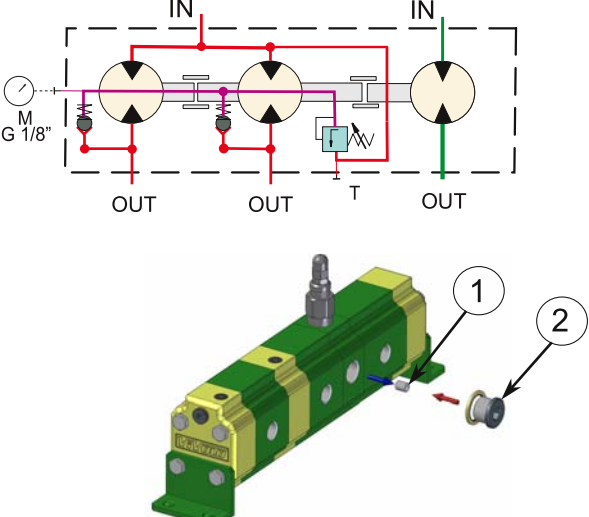
Li = Interasse fori di fissaggio (divisore e motore con cilindrata uguali)

Cm³/giro	A-M	Numero di elementi															
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
0,9	41,5	223	297,5	372	446,5	521	595,5	670	744,5	819	893,5	968	1042,5	1117	1191,5	1266	
1,2	42,5	225	300,5	376	451,5	527	602,5	678	753,5	829	904,5	980	1055,5	1131	1206,5	1282	
1,7	44	228	305	382	459	536	613	690	767	844	921	998	1075	1152	1229	1306	
2,2	46	232	311	390	469	548	627	706	785	864	943	1022	1101	1180	1259	1338	
2,6	48	236	317	398	479	560	641	722	803	884	965	1046	1127	1208	1289	1370	
3,2	50	240	323	406	489	572	655	738	821	904	987	1070	1153	1236	1319	1402	
3,8	52	244	329	414	499	584	669	754	839	924	1009	1094	1179	1264	1349	1434	
4,3	54	248	335	422	509	596	683	770	857	944	1031	1118	1205	1292	1379	1466	
4,9	57	254	344	434	524	614	704	794	884	974	1064	1154	1244	1334	1424	1514	
5,9	60,5	261	354,5	448	541,5	635	728,5	822	915,5	1009	1103	1196	1289,5	1383	1476,5	1570	
6,5	63	266	362	458	554	650	746	842	938	1034	1130	1226	1322	1418	1514	1610	
7,8	67	274	374	474	574	674	774	874	974	1074	1174	1274	1374	1474	1574	1674	
9,8	76	292	401	510	619	728	837	946	1055	1164	1273	1382	1491	1600	1709	1818	

Tabella: 3

In questa tabella sono indicati il numero di ingressi del divisore in funzione del numero di elementi

Numero di elementi	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Numero di ingressi	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8

DRENAGGIO ESTERNO <i>PREDISPOSIZIONE STANDARD DI FABBRICA</i>	DRENAGGIO INTERNO
Collegare il foro drenaggio (T) al serbatoio	Per predisporre il divisore al drenaggio interno eseguire le seguenti operazioni: 1. Smontare il grano G 1/8 alloggiato all'interno del foro di drenaggio 2. Con un tappo da ½ G tappare il foro di drenaggio (T)
	

Nella **tabella 1** è indicato il campo di funzionamento dei singoli elementi divisore.

Più è alta la portata (q) di alimentazione, maggiore è la precisione di divisione del flusso, ma di contro si hanno perdite di carico e rumorosità più elevata. Pertanto consigliamo di alimentare gli elementi con portate uguali o di poco superiori a quelle indicate nella colonna **“CONSIGLIATA”**.

Ricordarsi di verificare le portate anche in fase di riunificazione del flusso.

Le pressioni indicate sono da considerarsi massime di funzionamento, il divisore può supportare picchi di pressione superiori del 20%.

Come calcolare le misure “Li” e “Lt” del divisore:

Dalla **tabella 2** ricavare le misura “Li” per i divisori fino a 16 elementi con cilindrata uguali; per i divisori con elementi diversi o con più di 16 elementi le misura “Li” e “Lt” si calcolano con le seguenti formule:

$$Li = [(n-1) \times 33] + 107 + (A1 + A2 + A3 + \dots)$$

$$107 = 53,5 + 53,5$$

n = Numero di elementi del divisore

A1... An = altezze elementi divisore

$$Lt = Li + 19$$

$$19 = 9,5 + 9,5$$

ESEMPIO: Per ottenere le misure **Li** e **Lt** di un divisore a 2 elementi+motore (n=3), del tipo **RV-1H / 3,8 x 2+ 1 MOTORE 7,8**

Interasse fori di fissaggio

$$Li = [(3-1) \times 33] + 107 + 52 + 52 + 67 = 344 \text{ mm}$$

Lunghezza di ingombro totale

$$Lt = 344 + 19 = 363$$

Nella **tabella 3** sono indicati il numero di ingressi in funzione del numero di elementi

Gli ingressi del divisore sono tutti comunicanti ed è possibile utilizzarne anche uno solo tappando gli altri.

Consigliamo di sfruttare almeno 1 ingresso ogni **40 l/min** di portata

Per ottenere errori di divisione **inferiori al 3%** non si devono avere differenze di pressioni tra gli elementi superiori a **30 bar**.

Per ottenere precisioni elevate è importante anche il rispetto dei seguenti parametri:

- Temperatura ambiente: -10°C ÷ +60°C
- Temperatura olio: +30°C ÷ +60°C
- Olio idraulico a base minerale hlp, hv (din 51524)
- Viscosità olio 20 ÷ 40 cSt
- Filtraggio olio 10 ÷ 25 µ

Divisore di Flusso con **valvola singola di rifasamento** comune a tutti gli elementi + MOTORE "Gruppo 2"

Codice:

9RN	NN	M	O	CC	CC
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9RN	Tipo Divisore
NN	Numero di Elementi Divisore
M	Codice campo taratura valvola
O	Numero di Elementi MOTORE
CM	Codice della cilindrata dei MOTORI
CC	Codice della cilindrata degli Elementi Divisore

Esempio: Divisore a 2 elementi con cilindrata uguale:

RV-1H / 7,8 x 2 CON VALVOLA 10 ÷ 105 bar + 1 MOTORE 17

9RH	02	C	1	51	34
-----	----	---	---	----	----

Esempio: Divisore a 4 elementi con cilindrata diverse (max 6):

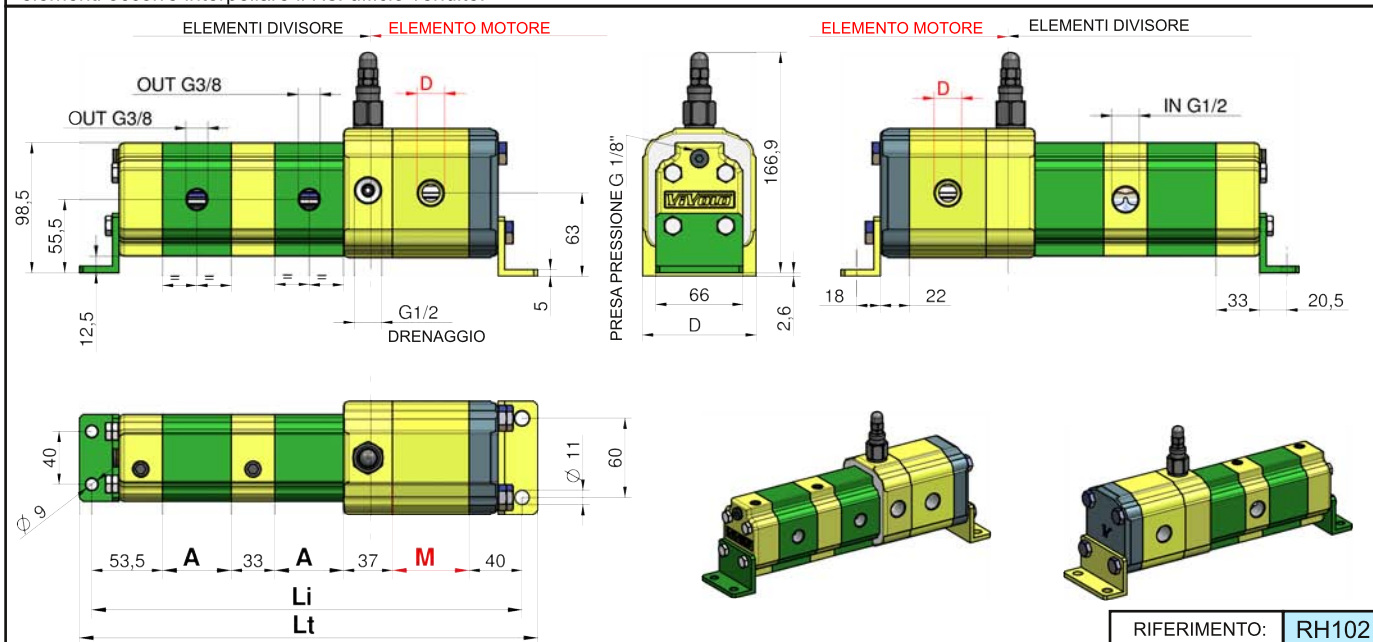
RV-1H / 3,8+4,9+4,9 CON VALVOLA 70 ÷ 210 bar + 1 MOTORE 14

9RH	03	D	1	49	25	29	29
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NOTA: per codificare divisori con cilindrata diverse a più di 6 elementi occorre interpellare il Ns. ufficio vendite.

Tabella: 1

Cilindrata Cm ³ /giro	CC Codice	Pressione max bar	Portata di un elemento l/min		
			MIN	CONSIGLIATA	MAX
0,9	16	220	1	2	6
1,2	17	220	1,5	3	7
1,7	18	220	2	4	9
2,2	20	220	2,5	5	13
2,6	21	220	3	6	15,5
3,2	23	220	3,5	7,5	18
3,8	25	220	4	8,5	21
4,3	27	220	4,5	9,5	23
4,9	29	220	5,5	11	27
5,9	31	220	6,5	13	30
6,5	32	220	7,5	14	32
7,8	34	210	8,5	16	35,5
9,8	36	200	11	20	41



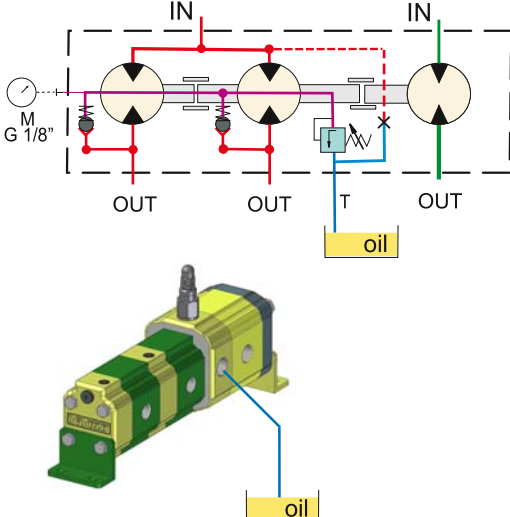
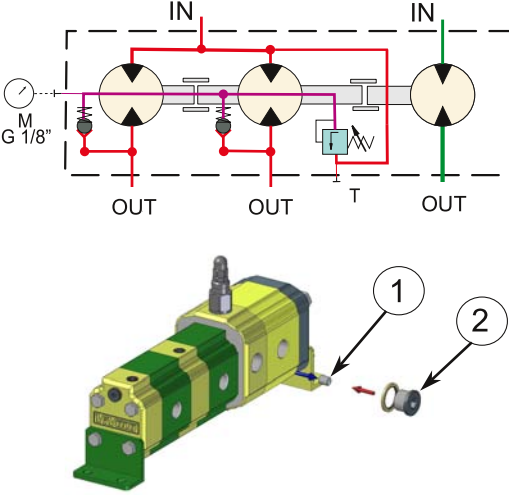
Cm ³ /giro	A
0,9	41,5
1,2	42,5
1,7	44
2,2	46
2,6	48
3,2	50
3,8	52
4,3	54
4,9	57
5,9	60,5
6,5	63
7,8	67
9,8	76

Cm ³ /giro	CM	M	D
4	41	47	1/2" BSP
6	43	50	1/2" BSP
9	45	54	1/2" BSP
11	47	58	1/2" BSP
14	49	64	3/4" BSP
17	51	68	3/4" BSP
19	53	72	3/4" BSP
22	55	78	3/4" BSP
26	57	82	1" BSP
30	59	90	1" BSP
34	61	97	1" BSP
40	63	106	1" BSP

Tabella: 3

In questa tabella sono indicati il numero di ingressi del divisore in funzione del numero di elementi

Numero di elementi	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Numero di ingressi	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8

DRENAGGIO ESTERNO <i>PREDISPOSIZIONE STANDARD DI FABBRICA</i>	DRENAGGIO INTERNO
Collegare il foro drenaggio (T) al serbatoio	Per predisporre il divisore al drenaggio interno eseguire le seguenti operazioni: 1. Smontare il grano G 1/8 alloggiato all'interno del foro di drenaggio 2. Con un tappo da ½ G tappare il foro di drenaggio (T)
	

Nella **tabella 1** è indicato il campo di funzionamento dei singoli elementi divisore.

Più è alta la portata (q) di alimentazione, maggiore è la precisione di divisione del flusso, ma di contro si hanno perdite di carico e rumorosità più elevata. Pertanto consigliamo di alimentare gli elementi con portate uguali o di poco superiori a quelle indicate nella colonna **“CONSIGLIATA”**.

Ricordarsi di verificare le portate anche in fase di riunificazione del flusso.

Le pressioni indicate sono da considerarsi massime di funzionamento, il divisore può supportare picchi di pressione superiori del 20%.

Come calcolare le misure “Li” e “Lt” del divisore:

$$Li = [(n-1) \times 33] + 130,5 + (M1 + M2 + M3 + \dots) + (A1 + A2 + A3 + \dots)$$

$$Lt = Li + 21,5$$

$$130,5 = 53,5 + 37 + 40$$

n = Numero di elementi del divisore

A1... An = altezze elementi divisore

M1... Mn = altezze elementi motore

$$21,5 = 9,5 + 12$$

ESEMPIO: Per ottenere le misure **Li** e **Lt** di un divisore a 2 elementi+ 1 motore (n=2), del tipo **RV-1H / 3,8 x 2+ 1 MOTORE 11**

Interasse fori di fissaggio

$$Li = [(2-1) \times 33] + 130,5 + 47 + 52 + 52 = 314,5 \text{ mm}$$

Lunghezza di ingombro totale

$$Lt = 314,5 + 21,5 = 336$$

Nella **tabella 3** sono indicati il numero di ingressi in funzione del numero di elementi

Gli ingressi del divisore sono tutti comunicanti ed è possibile utilizzarne anche uno solo tappando gli altri.

Consigliamo di sfruttare almeno 1 ingresso ogni 40 l/min di portata

Per ottenere errori di divisione **inferiori al 3%** non si devono avere differenze di pressioni tra gli elementi superiori a **30 bar**.

Per ottenere precisioni elevate è importante anche il rispetto dei seguenti parametri:

- Temperatura ambiente: -10°C ÷ +60°C
- Temperatura olio: +30°C ÷ +60°C
- Olio idraulico a base minerale hlp, hv (din 51524)
- Viscosità olio 20 ÷ 40 cSt
- Filtraggio olio 10 ÷ 25 µ

Code:

9RN	NN	M	O	CC	CC
-----	----	---	---	----	----

9RN	Flow Divider Typology
NN	Number of flow divider elements
M	Code of setting range of the valves
O	Number of motor elements
CC	Motor Displacement Code
CC	Flow Divider Displacement Code

TABLE "M"	
A	7 ÷ 210 bar
B	105 ÷ 420 bar

Example: Flow divider with two elements (same displacement) with motor RV-1N/ 3,8 x 2 with valve 7 ÷ 210 bar + 1 Motor 7,8

9RN	02	A	1	34	25
-----	----	---	---	----	----

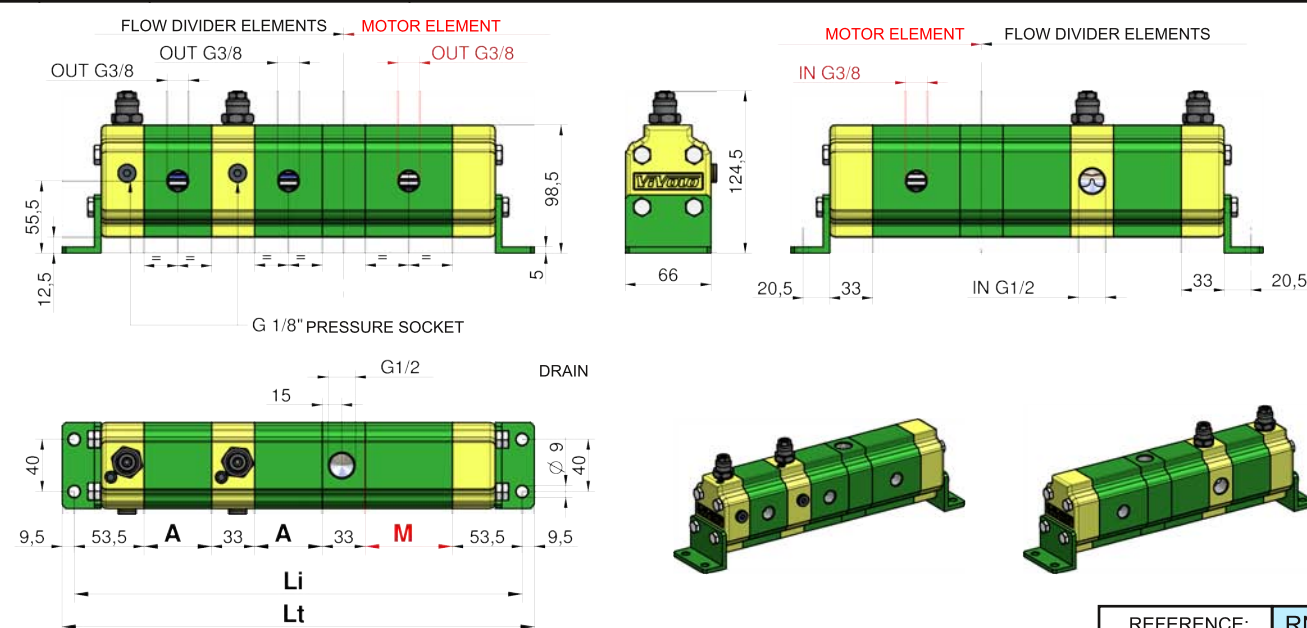
Example: Flow Divider 3 elements (different displacement - max 6) and Motor: RV-1N / 3,8+4,9+4,9 with valve 105 ÷ 420 bar + 1 Motor 6,5

9RN	03	B	1	32	25	29	29
-----	----	---	---	----	----	----	----

NOTE: to define codes for flow dividers with more than 6 different displacement, please contact our sales department.

Table: 1

Displacem. Cm ³ /rev	CC Code	Max Pressure bar	One element flow rate l/min		
			MIN	RECOMMENDED	MAX
0,9	16	220	1	2	6
1,2	17	220	1,5	3	7
1,7	18	220	2	4	9
2,2	20	220	2,5	5	13
2,6	21	220	3	6	15,5
3,2	23	220	3,5	7,5	18
3,8	25	220	4	8,5	21
4,3	27	220	4,5	9,5	23
4,9	29	220	5,5	11	27
5,9	31	220	6,5	13	30
6,5	32	220	7,5	14	32
7,8	34	210	8,5	16	35,5
9,8	36	200	11	20	41


Table: 2

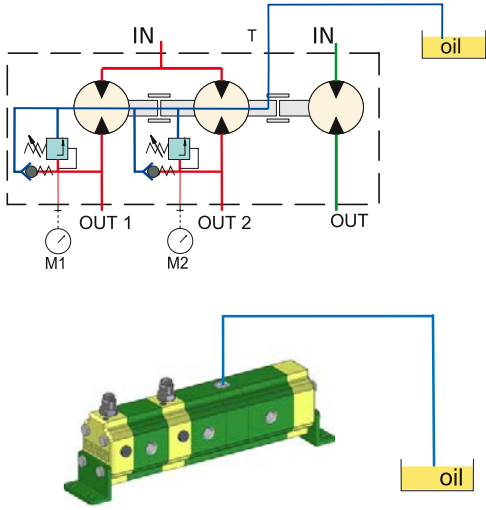
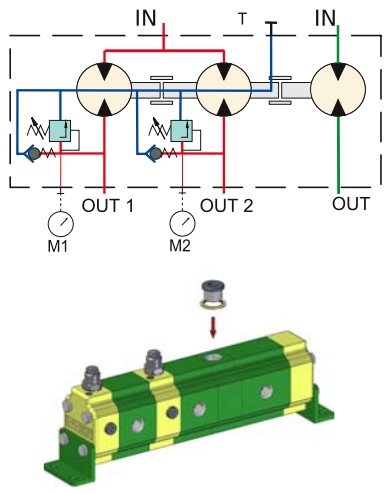
Li = Distance between fixing hole centres (single displacement flow divider)

Cm ³ /rev	A-M	Number of elements														
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0,9	41,5	223	297,5	372	446,5	521	595,5	670	744,5	819	893,5	968	1042,5	1117	1191,5	1266
1,2	42,5	225	300,5	376	451,5	527	602,5	678	753,5	829	904,5	980	1055,5	1131	1206,5	1282
1,7	44	228	305	382	459	536	613	690	767	844	921	998	1075	1152	1229	1306
2,2	46	232	311	390	469	548	627	706	785	864	943	1022	1101	1180	1259	1338
2,6	48	236	317	398	479	560	641	722	803	884	965	1046	1127	1208	1289	1370
3,2	50	240	323	406	489	572	655	738	821	904	987	1070	1153	1236	1319	1402
3,8	52	244	329	414	499	584	669	754	839	924	1009	1094	1179	1264	1349	1434
4,3	54	248	335	422	509	596	683	770	857	944	1031	1118	1205	1292	1379	1466
4,9	57	254	344	434	524	614	704	794	884	974	1064	1154	1244	1334	1424	1514
5,9	60,5	261	354,5	448	541,5	635	728,5	822	915,5	1009	1103	1196	1289,5	1383	1476,5	1570
6,5	63	266	362	458	554	650	746	842	938	1034	1130	1226	1322	1418	1514	1610
7,8	67	274	374	474	574	674	774	874	974	1074	1174	1274	1374	1474	1574	1674
9,8	76	292	401	510	619	728	837	946	1055	1164	1273	1382	1491	1600	1709	1818

Table: 3

in this table the number of inlets in function of the number of elements are indicated.

Number of elements	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
"IN" Number of inlets	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8

EXTERNAL DRAIN <i>STANDARD SETUP</i>	INTERNAL DRAIN
For the correct functioning of the flow divider, it has to be installed <i>under the oil level</i>. The drain tube has to pick up under the oil level and it has not to aspire air.	To predispose the divider to the internal drain, plug the 1/2 G drain port (T) Note: with this configuration the function of anticavitation valves is annulled
	

In **table 1** the functioning range of single flow divider elements is indicated.

The higher is the feeding capacity (q), the higher is the precision of the flow division, but in opposition there are losses of loading and higher noise. Therefore we suggest to feed the elements with capacities equal or a few superior to the ones indicated in the column **"RECOMMENDED"**.

Remember to verify the capacities even in phase of flow reunion.

The pressure indicated are to be considered as maximum of functioning, the flow divider is able to bear peaks of pressure 20 % superior.

How to calculate the "Li" and "Lt" measures of flow dividers:

From **table 2** it is possible to obtain the "Li" measure for flow dividers up to 16 elements with equal displacements; for flow dividers with different elements or with more than 16 elements the "Li" and "Lt" measure have to be calculated by the following formula:

$$Li = [(n-1) \times 33] + 107 + (A1 + A2 + A3 + \dots)$$

$$107 = 53,5 + 53,5$$

n = Number of elements of flow divider

A1... An = heights of elements of flow divider

$$Lt = Li + 19$$

$$19 = 9,5 + 9,5$$

EXAMPLE: To obtain the measures **Li** and **Lt** of a flow divider with three elements (n=3), **RV-1N / 3,8 x 2+ 1 MOTOR 7,8**

Distance between fixing hole centres $Li = [(3-1) \times 33] + 107 + 52 + 52 + 67 = 344 \text{ mm}$

Total Length $Lt = 344 + 19 = 363$

In **table 3** the number of inlets in fuction of the number of elements are indicated.

For flow dividers with many inlets, as they are all communicating it is even possible to use only one of them, by plugging the other ones. We suggest to make full us at least of **1** inlet every **40 l/min** capacity.

To obtain errors of division **inferior to 3%** there must be no difference of pressure between the elements superior to **30 bar**. To obtain high precisions the respect of the following parametres is also important:

- Enviroment temperature: -10°C ÷ +60°C Oil temperature: +30°C ÷ +60°C
- Hydraulic oil based on hlp, hv (din 51524) minerals Oil Viscosity 20 ÷ 40 cSt
- Oil filtering 10 ÷ 25 µ

Code:

9RN	NN	M	O	CC	CC
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9RN	Flow Divider Typology
NN	Number of flow divider elements
M	Code of setting range of the valves
O	Number of motor elements
CM	Motor Displacement Code
CC	Flow Divider Displacement Code

TABLE "M"	
A	7 ÷ 210 bar
B	105 ÷ 420 bar

Example: Flow divider 2 elements (same displacement) and motor:
RV-1N/ 7,8 x 2 with valve 7 ÷ 210 bar + 1 motor 17 cc

9RN	02	A	1	51	34
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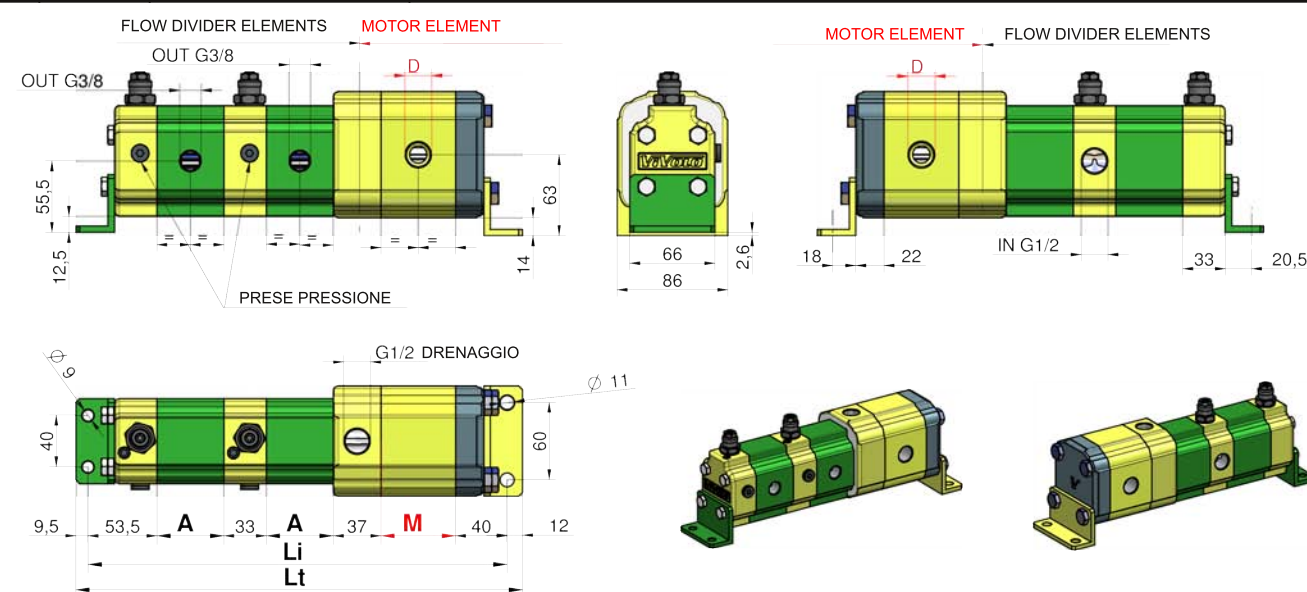
Example: Flow divider 4 elements (different displacement - max 6) and motor:
RV-1N / 3,8+4,9+4,9 with valve 105 ÷ 420 bar + 1 motor 14 cc

9RN	03	B	1	49	25	29	29
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NOTE: to define codes for flow dividers with more than 6 different displacement, please contact our sales department.

Table: 1

Displacem. Cm ³ /rev	CC Code	Max Pressure bar	One element flow rate l/min		
			MIN	RECOMMENDED	MAX
0,9	16	220	1	2	6
1,2	17	220	1,5	3	7
1,7	18	220	2	4	9
2,2	20	220	2,5	5	13
2,6	21	220	3	6	15,5
3,2	23	220	3,5	7,5	18
3,8	25	220	4	8,5	21
4,3	27	220	4,5	9,5	23
4,9	29	220	5,5	11	27
5,9	31	220	6,5	13	30
6,5	32	220	7,5	14	32
7,8	34	210	8,5	16	35,5
9,8	36	200	11	20	41



REFERENCE: RN102

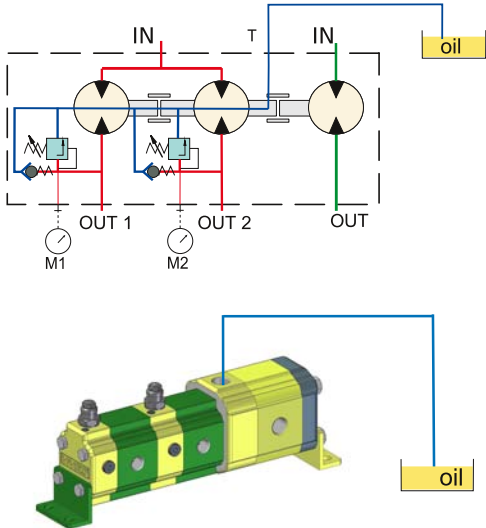
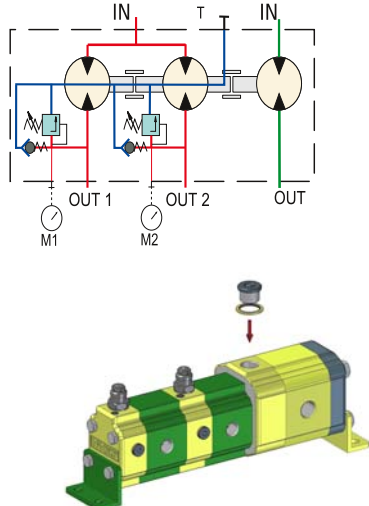
Cm ³ /rev	A
0,9	41,5
1,2	42,5
1,7	44
2,2	46
2,6	48
3,2	50
3,8	52
4,3	54
4,9	57
5,9	60,5
6,5	63
7,8	67
9,8	76

Cm ³ /rev	CM	M	D
4	41	47	1/2" BSP
6	43	50	1/2" BSP
9	45	54	1/2" BSP
11	47	58	1/2" BSP
14	49	64	3/4" BSP
17	51	68	3/4" BSP
19	53	72	3/4" BSP
22	55	78	3/4" BSP
26	57	82	1" BSP
30	59	90	1" BSP
34	61	97	1" BSP
40	63	106	1" BSP

Table: 3

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EXTERNAL DRAIN <i>STANDARD SETUP</i>	INTERNAL DRAIN
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The higher is the feeding capacity (q), the higher is the precision of the flow division, but in opposition there are losses of loading and higher noise. Therefore we suggest to feed the elements with capacities equal or a few superior to the ones indicated in the column **"RECOMMENDED"**.

Remember to verify the capacities even in phase of flow reunion.

The pressure indicated are to be considered as maximum of functioning, the flow divider is able to bear peaks of pressure 20 % superior.

How to calculate the "Li" and "Lt" measures of flow dividers:

$$Li = [(n-1) \times 33] + 130,5 + (M1 + M2 + M3 + \dots) + (A1 + A2 + A3 + \dots)$$

$$Lt = Li + 21,5$$

$$130,5 = 53,5 + 37 + 40$$

n = Number of elements of flow divider

A1... An = heights of elements of flow divider

M1... Mn = heights of elements of motor

$$21,5 = 9,5 + 12$$

EXAMPLE: To obtain the measures Li and Lt of a flow divider with three elements (n=2), **RV-1N / 3,8 x 2+ 1 Motor 11 cc**

Distance between fixing hole centres

$$Li = [(2-1) \times 33] + 130,5 + 47 + 52 + 52 = 314,5 \text{ mm}$$

Total Length

$$Lt = 314,5 + 21,5 = 336$$

In **table 3** the number of inlets in fuction of the number of elements are indicated.

For flow dividers with many inlets, as they are all communicating it is even possible to use only one of them, by plugging the other ones. We suggest to make full us at least of **1** inlet every **40 l/min** capacity.

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- Oil filtering 10 ÷ 25 µ