



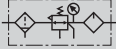
F.R.L. combination standard white Series

C1000/C2000/C2500-W C3000/C4000/C6500/C8000-W Series

Space-saving type integrated filter, regulator and lubricator

Port size: 1/8 to 1

JIS symbol



Specifications

Descriptions		C1000-W	C2000-W	C2500-W	C3000-W	C4000-W	C6500-W	C8000-W
Appearance								
Components	Air filter	F1000-W	F2000-W	F3000-W	F3000-W	F4000-W	F6000-W	F8000-W
	Regulator	R1000-W	R2000-W	R2000-W	R3000-W	R4000-W	R6000-W	R8000-W
	Lubricator	L1000-W	L3000-W	L3000-W	L3000-W	L4000-W	L8000-W	L8000-W
Working fluid		Compressed air						
Max. working pressure MPa		1.0 Note 2						
Withstanding pressure MPa		1.5						
Ambient temperature range °C		5 to 60						
Filtration rating μm		5						
Set pressure range MPa		0.05 to 0.85 ^{Note 2}		0.05 to 0.85				
Min. drip flow (Note 1) m ³ /min. (ANR)		0.015	0.03	0.03	0.03	0.065	0.065	0.065
Relief		With relief mechanism						
Oil capacity cm ³		20	85	85	85	170	170	170(MAX360)
Drain capacity cm ³		12	25	45	45	80	80	80(Note 3)
Use oil		Turbine oil Class 1 ISO VG32 (spindle oil can not be used)						
Port size Rc, NPT, G		1/8, 1/4 (3/8 uses an adaptor)	1/4, 3/8 (1/2 uses an adaptor)	1/4, 3/8 (1/2 uses an adaptor)	1/4, 3/8 (1/2 uses an adaptor)	1/4, 3/8, 1/2 (3/4 uses an adaptor)	3/4, 1 (1 1/4 uses an adaptor)	3/4, 1 (1 1/4 uses an adaptor)
Product weight kg		0.40	1.01	1.01	1.15	1.79	3.64	4.5
Standard accessories		Pressure gauge, bracket, bowl guard						

Note 1: The minimum drip flow is that at which five drops of turbine oil drip per minute at the set pressure of 0.5 MPa.

Note 2: When using C1000-W series "F1" with an automatic drain, the minimum operating pressure is 0.2 MPa and maximum operation pressure is 0.7 MPa.

Refer to the maximum processing flow table (page 350) for the F1000-W-F1 automatic drain for the maximum working flow. Set the working flow to less than the maximum working flow.

Note 3: Drainage accumulates up to 170 cm³ only with the manual drain cock.

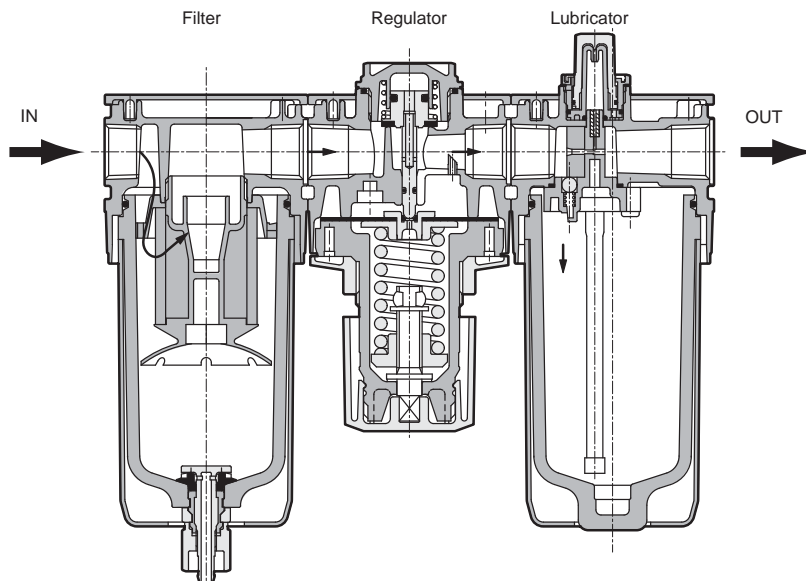
Note 4: The automatic drain's minimum operating pressure for "F" or "FF" with an automatic drain is 0.1 MPa. Initially generated drainage and air are purged until pressure reaches 0.1 MPa.

Note 5: The minimum operation pressure of the automatic drain is 0.15 MPa for the "F1" or "FF1" with an automatic drain.

Note 6: When element option "Y" is selected, refer to the maximum working flow table (page 352) for maximum flow. Set the working flow to less than the maximum working flow.

Note 7: When using the "F1" with automatic drain, use the C2000-W Series at less than the maximum flow rate. (Refer to F2000-W on page 350 for the maximum flow rate.)

Internal structure

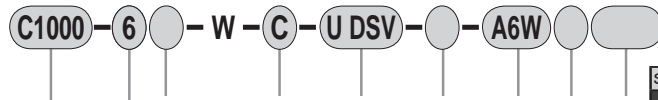


F.R.L. Combination

How to order

How to order

* Refer to page 274 for the explanation of the option.



A Model no.
Note 2

B Port size

C Port thread type

D Option

E Assembly attachment

F Display unit

G Piping adaptor set (attached)

H Attachment (attached)

I Pressure gauge option (attached)

A	Model no.	Note 1
C 1000	C 2000	C 2500
C 3000	C 4000	C 6500
C 8000		

Symbol	Descriptions	C 1000	C 2000	C 2500	C 3000	C 4000	C 6500	C 8000	
B Port size									
6	1/8	●							
8	1/4	●	●	●	●	●			
10	3/8		●	●	●	●			
15	1/2				●	●			
20	3/4					●	●		
25	1						●	●	

Symbol	Descriptions	C 1000	C 2000	C 2500	C 3000	C 4000	C 6500	C 8000	
C Port thread type									
Blank	Rc thread	●	●	●	●	●	●	●	
N	NPT thread	●	●	●	●	●	●	●	
G	G thread								

Symbol	Descriptions	C 1000	C 2000	C 2500	C 3000	C 4000	C 6500	C 8000	
D Option									
Blank	Filter with manual drain cock, lubricator without manual drain cock	●	●	●	●	●	●	●	
C	Lubricator with manual cock	●	●	●	●	●	●	●	
F	Filter/auto. drain with manual override (NO type: Exhaust w/o pressurized)				●	●	●	●	
F1	Filter/auto. drain with manual override (NC type: No exhaust w/o pressurized)				●	●	●	●	
FF	Filter/large auto. drain with manual override (NO type: Exhaust w/o pressurized)						●	●	
FF1	Filter/large auto. drain with manual override (NC type: No exhaust w/o pressurized)							●	

Symbol	Descriptions	C 1000	C 2000	C 2500	C 3000	C 4000	C 6500	C 8000	
Bowl material									
Blank	Polycarbonate bowl	●	●	●	●	●	●	●	
Z	Nylon bowl				●	●	●	●	
M	Metal bowl				●	●	●	●	
M1	Metal bowl with manual drain cock Note 5				●	●	●	●	

Symbol	Descriptions	C 1000	C 2000	C 2500	C 3000	C 4000	C 6500	C 8000	
Element									
Blank	5µm	●	●	●	●	●	●	●	
Y	0.3µm (submicron) Note 6				●	●	●	●	

Symbol	Descriptions	C 1000	C 2000	C 2500	C 3000	C 4000	C 6500	C 8000	
Differential pressure detection									
Blank	Without differential pressure detection port	●	●	●	●	●	●	●	
Q	With differential pressure detection port (Rc1/4)						●	●	

Symbol	Descriptions	C 1000	C 2000	C 2500	C 3000	C 4000	C 6500	C 8000	
Pressure range									
Blank	0.05 to 0.85MPa	●	●	●	●	●	●	●	
L	0.05 to 0.35MPa Note 7						●	●	
Relief									
Blank	With relief mechanism	●	●	●	●	●	●	●	
N	Nonrelief type								
Pressure gauge									
Blank	With standard pressure gauge (G401-W)	●	●	●	●	●	●	●	
T	W/o pressure gauge (pressure gauge port (Rc1/4) is assembled with sealed)								
T8	Pressure gauge attached (pressure gauge port (Rc1/4) is assembled by open)	●	●	●	●	●	●	●	
Flow direction									
Blank	Standard flow (left → right)	●	●	●	●	●	●	●	
X1	Reverse flow (right → left)								

Symbol	Descriptions	C 1000	C 2000	C 2500	C 3000	C 4000	C 6500	C 8000	
E Assembly attachment									
Blank	Without assembly attachment type	●	●	●	●	●	●	●	
U	Assembly attachment type Note 8	●	●	●	●	●	●	●	
Assembled									
D	Distributor (D101-W, D401-W, D801-W)	●	●	●	●	●	●	●	
S	Pressure switch (P1100-W, 4100-W, 8100-W)	●	●	●	●	●	●	●	
P	Pressure switch (P4000-W)								
V	Shut-off valve (V1000-W, 3000-W)								
K	Lockout valve (V3010-W, W6010-W)								

Symbol	Descriptions	C 1000	C 2000	C 2500	C 3000	C 4000	C 6500	C 8000	
F Display unit									
Blank	MPa display, Rc thread	●	●	●	●	●	●	●	
J1	MPa display, NPT, G thread								

Symbol	Descriptions	C 1000	C 2000	C 2500	C 3000	C 4000	C 6500	C 8000	
G Piping adaptor set (attached)									
Blank	Not attached	●	●	●	●	●	●	●	
A6*W	Rc1/8 piping adaptor set								
A8*W	Rc1/4 piping adaptor set								
A10*W	Rc3/8 piping adaptor set								
A15*W	Rc1/2 piping adaptor set								
A20*W	Rc3/4 piping adaptor set								
A25*W	Rc1 piping adaptor set								
A32*W	Rc1 1/4 piping adaptor set								

Symbol	Descriptions	C 1000	C 2000	C 2500	C 3000	C 4000	C 6500	C 8000	
Adaptor screw type									
Blank	Rc thread	●	●	●	●	●	●	●	
N	NPT thread	●	●	●	●	●	●	●	
G	G thread								

Symbol	Descriptions	C 1000	C 2000	C 2500	C 3000	C 4000	C 6500	C 8000	
H Attachment (attached)									
Blank	Not attached	●	●	●	●	●	●	●	
PW	Pressure switch (P4000-W) + joiner set								
VW	Shut-off valve (V1000-W, V3000-W) + joiner set								

Symbol	Descriptions	C 1000	C 2000	C 2500	C 3000	C 4000	C 6500	C 8000	
I Pressure gauge option (attached)									
Blank	Not attached	●	●	●	●	●	●	●	
G45P	G45D-8-P10(L:G45D-8-P04)								
G49P	G49D-8-P10(L:G49D-8-P04)								
G59P	G59D-8-P10(L:G59D-8-P04)								
G40P	G40D-8-P10(L:G40D-8-P04)								
G50P	G50D-8-P10(L:G50D-8-P04)								
G41P	G41D-8-P10(L:G41D-8-P04)								
G52P	G52D-8-P10(L:G52D-8-P10)								

Note on model no. selection

Note 1: The piping adaptor A400-20* is assembled on both ends of C4000-20*-W. "A20*W" does not need to be selected for the piping adaptor set.

Note 2: When G threads or NPT threads are selected, the IN, OUT, gauge port, and drainage discharge port (metal bowl automatic drain) are the target, as are attachments P and V.

Note 3: Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top.

Note 4: Refer to page 276 for the automatic drain use conditions.

Note 5: Note 5: When selecting option "M1", select the drain discharge option "C", "F" or "F1".

Note 6: Refer to page 352 for maximum processing flow when option "Y" is selected.

Note 7: The pressure gauge's indication range is 0 to 0.4MPa for option "L".

Note 8: Installation position for assembly attachments

Symbol	Installation position	Applicable model
D	F+(D)+R+L	C1000-W to C8000-W
S or P	F+R+(S, P)+L	C1000-W to C8000-W (Excluding 1000, 6000, 8000 for "P")
V or K	F+R+L+(V, K)	C1000-W to C8000-W (Excluding 6000, 8000 for "V" or 1000 for "K")

Note) Indicate "U"+"D", "S", "P", "V" and "K" when selecting an assembly attachment. Use custom combinations specifications for any other combination.

Note 9: The joiner set is enclosed with the piping adaptor set.

Note 10: If NPT is selected for the "C" piping thread, a NPT pressure gauge is enclosed. If Rc or G thread is selected, an R thread pressure gauge is enclosed.

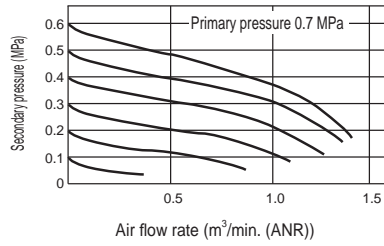
Refrigerating type dryer
Desiccant type dryer
High polymer membrane type dryer
Air filter
Auto. drain / others
F.R.L. (Module unit)
F.R.L. (Separate)
Compact F.R.
Precise regulator
F.R.L. (Related products)
Clean F.R.
Electro pneumatic regulator
Air booster
Speed control valve
Silencer
Check valve / others
Joint / tube
Vacuum filter
Vacuum regulator
Suction plate
Magnetic spring buffer
Mechanical pressure SW
Electronic pressure SW
Contact / close contact cont. SW
Air sensor
Pressure SW for coolant
Small flow sensor
Small flow controller
Flow sensor for air
Flow sensor for water
Total air system
Total air system (Gamma)
Ending
Standard series
F.R.L. unit

F.R.L. Combination

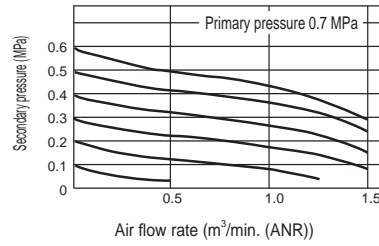
Flow characteristic

Refrigerating type dryer
Desiccant type dryer
High polymer membrane type dryer
Air filter
Auto. drain / others
F.R.L. (Module unit)
F.R.L. (Separate)
Compact F.R.
Precise regulator
F.R.L. (Related products)
Clean F.R.
Electro pneumatic regulator
Air booster
Speed control valve
Silencer
Check valve / others
Joint / tube
Vacuum filter
Vacuum regulator
Suction plate
Magnetic spring buffer
Mechanical pressure SW
Electronic pressure SW
Contact / close contact conf. SW
Air sensor
Pressure SW for coolant
Small flow sensor
Small flow controller
Flow sensor for air
Flow sensor for water
Total air system
Total air system (Gamma)
Ending

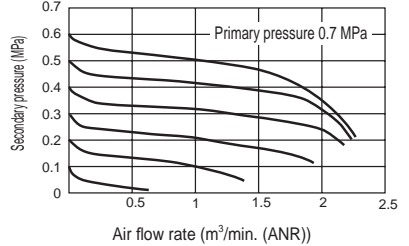
● C1000-6-W



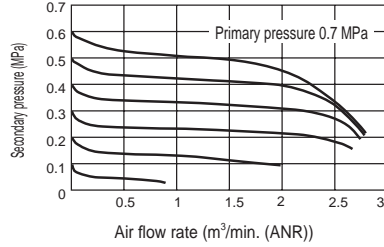
● C1000-8-W



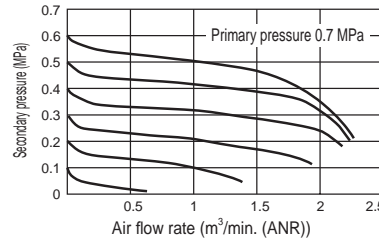
● C2000-8-W



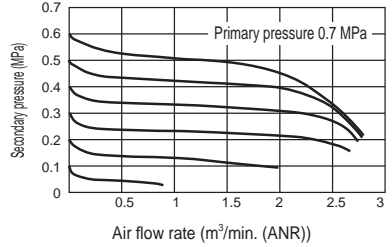
● C2000-10-W



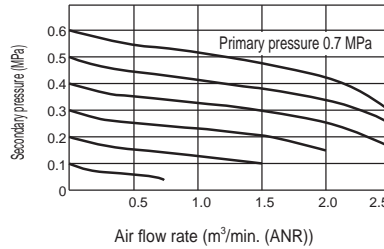
● C2500-8-W



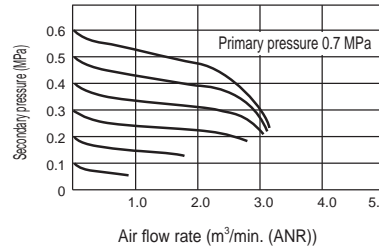
● C2500-10-W



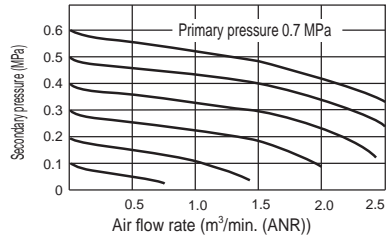
● C3000-8-W



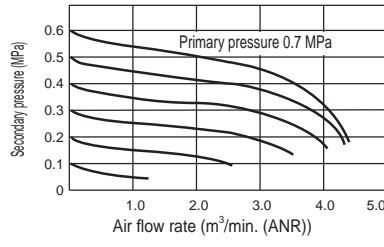
● C3000-10-W



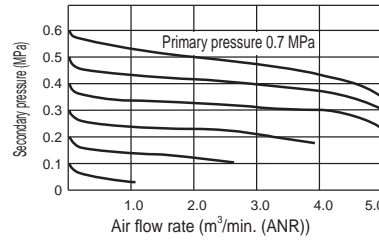
● C4000-8-W



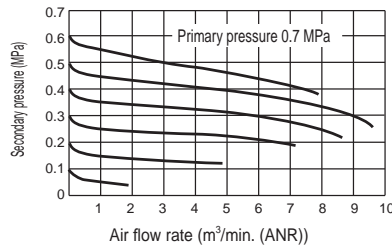
● C4000-10-W



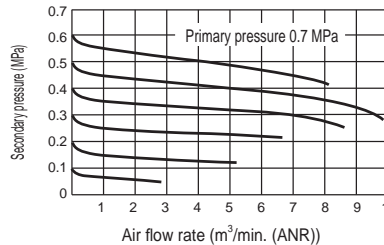
● C4000-15-W



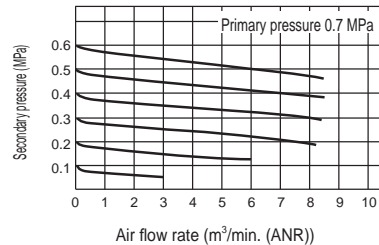
● C6500-20-W



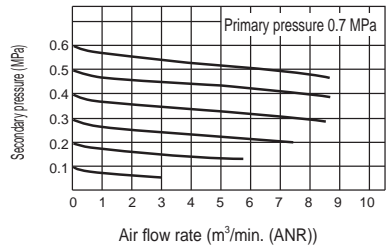
● C6500-25-W



● C8000-20-W



● C8000-25-W



Refrigerating type dryer
Desiccant type dryer
High polymer membrane type dryer
Air filter
Auto. drain / others
F.R.L. (Module unit)
F.R.L. (Separate)
Compact F.R.
Precise regulator
F.R.L. (Related products)
Clean F.R.
Electro pneumatic regulator
Air booster
Speed control valve
Silencer
Check valve / others
Joint / tube
Vacuum filter
Vacuum regulator
Suction plate
Magnetic spring buffer
Mechanical pressure SW
Electronic pressure SW
Contact / close contact conf. SW
Air sensor
Pressure SW for coolant
Small flow sensor
Small flow controller
Flow sensor for air
Flow sensor for water
Total air system
Total air system (Gamma)
Ending

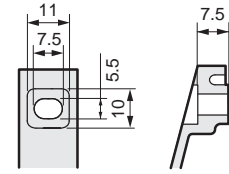
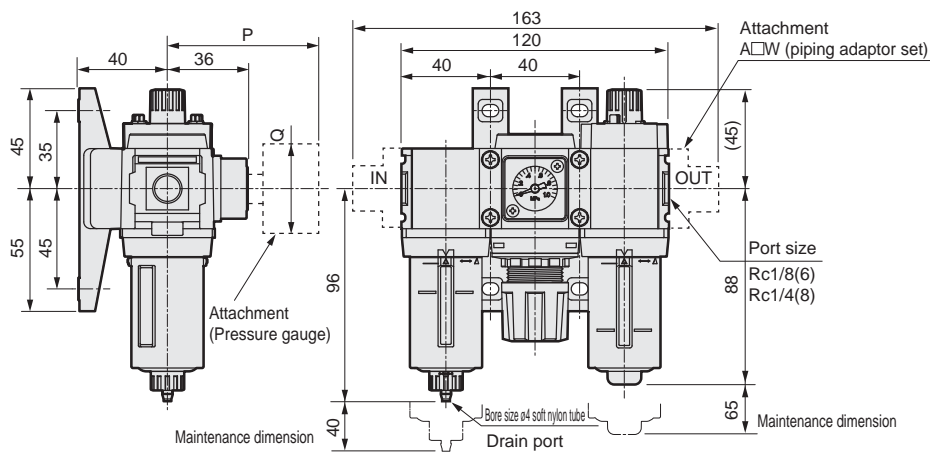
Standard series
F.R.L. unit

F.R.L. Combination

Dimensions

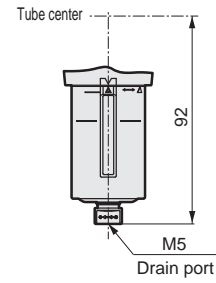
Refrigerating type dryer
Desiccant type dryer
High polymer membrane type dryer
Air filter
Auto. drain / others
F.R.L. (Module unit)
F.R.L. (Separate)
Compact F.R.
Precise regulator
F.R.L. (Related products)
Clean F.R.
Electro pneumatic regulator
Air booster
Speed control valve
Silencer
Check valve / others
Joint / tube
Vacuum filter
Vacuum regulator
Suction plate
Magnetic spring buffer
Mechanical pressure SW
Electronic pressure SW
Contact / close contact cont. SW
Air sensor
Pressure SW for coolant
Small flow sensor
Small flow controller
Flow sensor for air
Flow sensor for water
Total air system
Total air system (Gamma)
Ending

● C1000-W



Enlarged view of bracket section

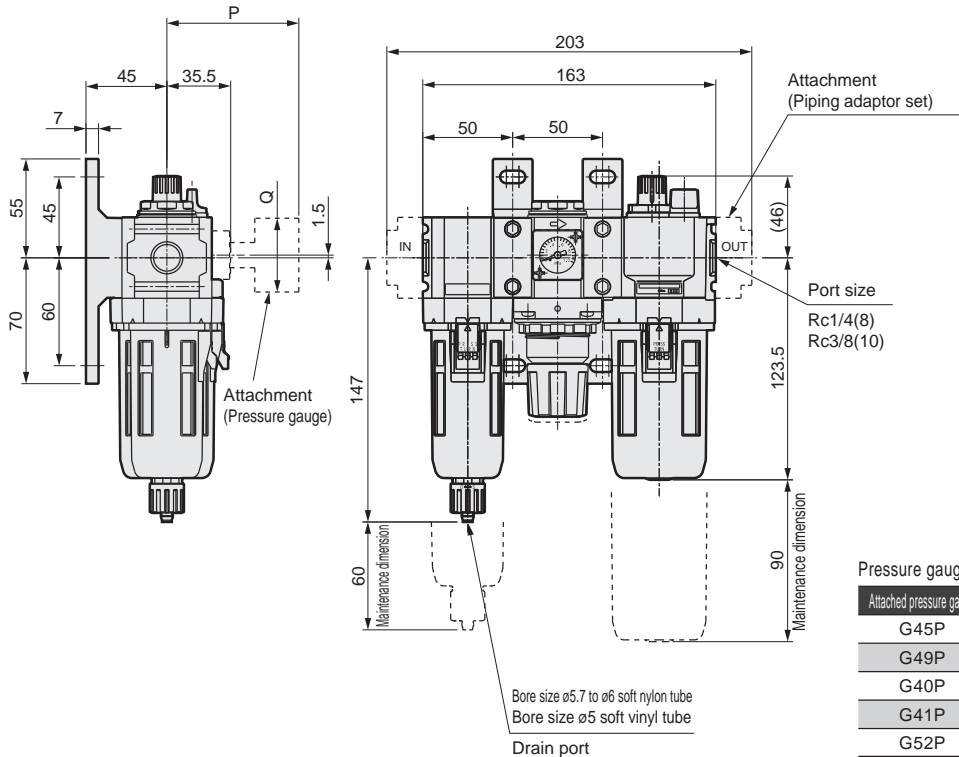
• Option dimensions With automatic drain (F1)



Pressure gauge attached optional dimensions table

Attached pressure gauge	P	Q
G45P	(74)	ø39
G49P	(73.5)	ø43.5
G59P	(76)	ø52
G40P	(75.5)	ø42.5
G50P	(75.5)	ø52.5
G41P	(74)	ø42
G52P	(86)	ø52.5

● C2000-W

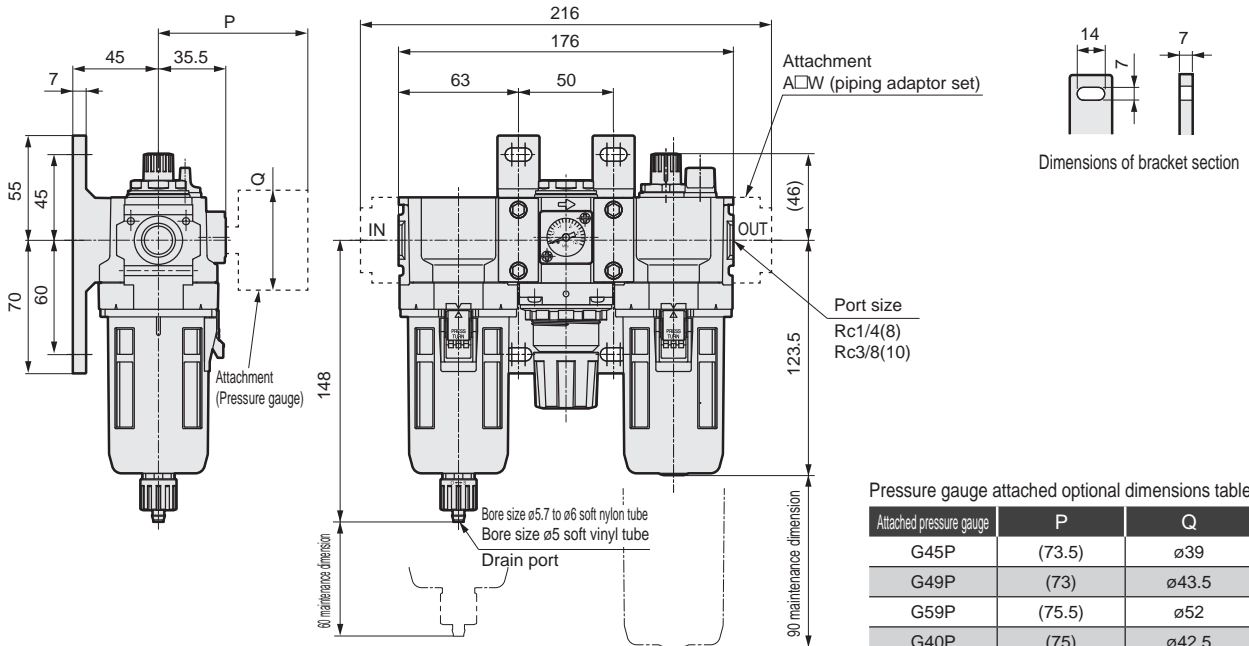


Pressure gauge attached optional dimensions table

Attached pressure gauge	P	Q
G45P	(73.5)	ø39
G49P	(73)	ø43.5
G40P	(75)	ø42.5
G41P	(73.5)	ø42
G52P	(85.5)	ø52.5

Dimensions

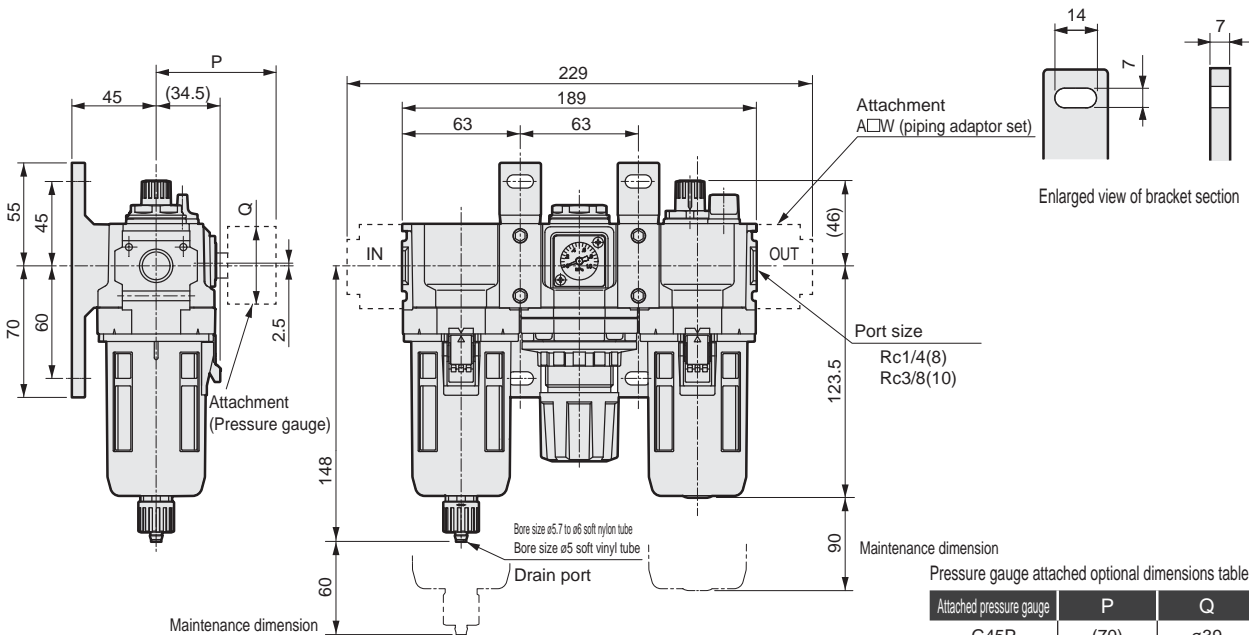
● C2500-W



Pressure gauge attached optional dimensions table

Attached pressure gauge	P	Q
G45P	(73.5)	ø39
G49P	(73)	ø43.5
G59P	(75.5)	ø52
G40P	(75)	ø42.5
G50P	(75)	ø52.5
G41P	(73.5)	ø42
G52P	(85.5)	ø52.5

● C3000-W



Pressure gauge attached optional dimensions table

Attached pressure gauge	P	Q
G45P	(70)	ø39
G49P	(69.5)	ø43.5
G59P	(72)	ø52
G40P	(71.5)	ø42.5
G50P	(71.5)	ø52.5
G41P	(70)	ø42
G52P	(82)	ø52.5

● Refer to page 357 for dimensions of metal bowl option filter, and to page 400 for dimensions of lubricator.

Refrigerating type dryer
Desiccant type dryer
High polymer membrane type dryer
Air filter
Auto. drain / others
F.R.L. (Module unit)
F.R.L. (Separate)
Compact F.R.
Precise regulator
F.R.L. (Related products)
Clean F.R.
Electro pneumatic regulator
Air booster
Speed control valve
Silencer
Check valve / others
Joint / tube
Vacuum filter
Vacuum regulator
Suction plate
Magnetic spring buffer
Mechanical pressure SW
Electronic pressure SW
Contact / close contact cont. SW
Air sensor
Pressure SW for coolant
Small flow sensor
Small flow controller
Flow sensor for air
Flow sensor for water
Total air system
Total air system (Gamma)
Ending

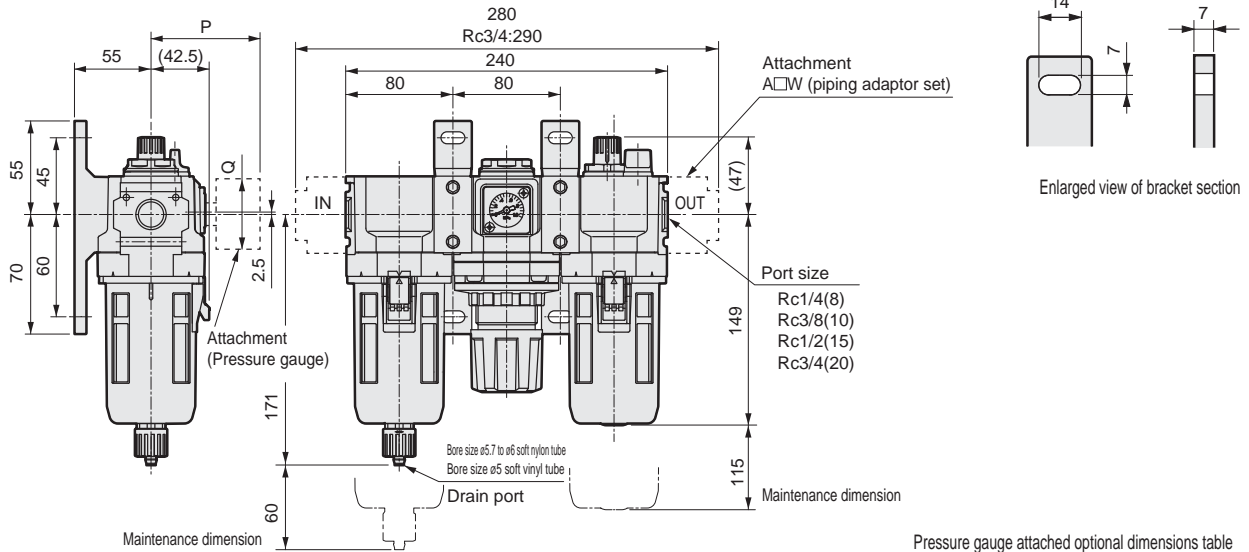
Standard series
F.R.L. unit

F.R.L. Combination

Dimensions

- Refrigerating type dryer
- Desiccant type dryer
- High polymer membrane type dryer
- Air filter
- Auto. drain / others
- F.R.L. (Module unit)**
- F.R.L. (Separate)
- Compact F.R.
- Precise regulator
- F.R.L. (Related products)
- Clean F.R.
- Electro pneumatic regulator
- Air booster
- Speed control valve
- Silencer
- Check valve / others
- Joint / tube
- Vacuum filter
- Vacuum regulator
- Suction plate
- Magnetic spring buffer
- Mechanical pressure SW
- Electronic pressure SW
- Contact / close contact conf. SW
- Air sensor
- Pressure SW for coolant
- Small flow sensor
- Small flow controller
- Flow sensor for air
- Flow sensor for water
- Total air system
- Total air system (Gamma)
- Ending

● C4000-W

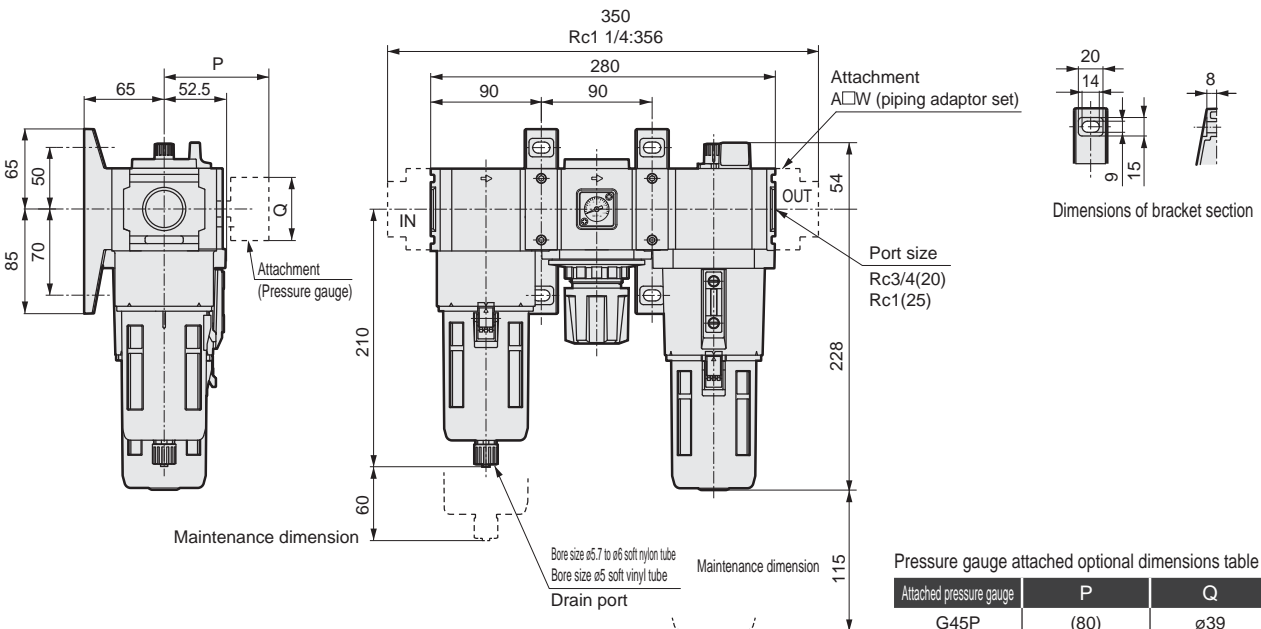


■ Refer to page 357 for dimensions of metal bowl option filter, and to page 400 for dimensions of lubricator.

Pressure gauge attached optional dimensions table

Attached pressure gauge	P	Q
G45P	(75)	$\phi 39$
G49P	(74.5)	$\phi 43.5$
G59P	(77)	$\phi 52$
G40P	(76.5)	$\phi 42.5$
G50P	(76.5)	$\phi 52.5$
G41P	(75)	$\phi 42$
G52P	(86)	$\phi 52.5$

● C6500-W



Pressure gauge attached optional dimensions table

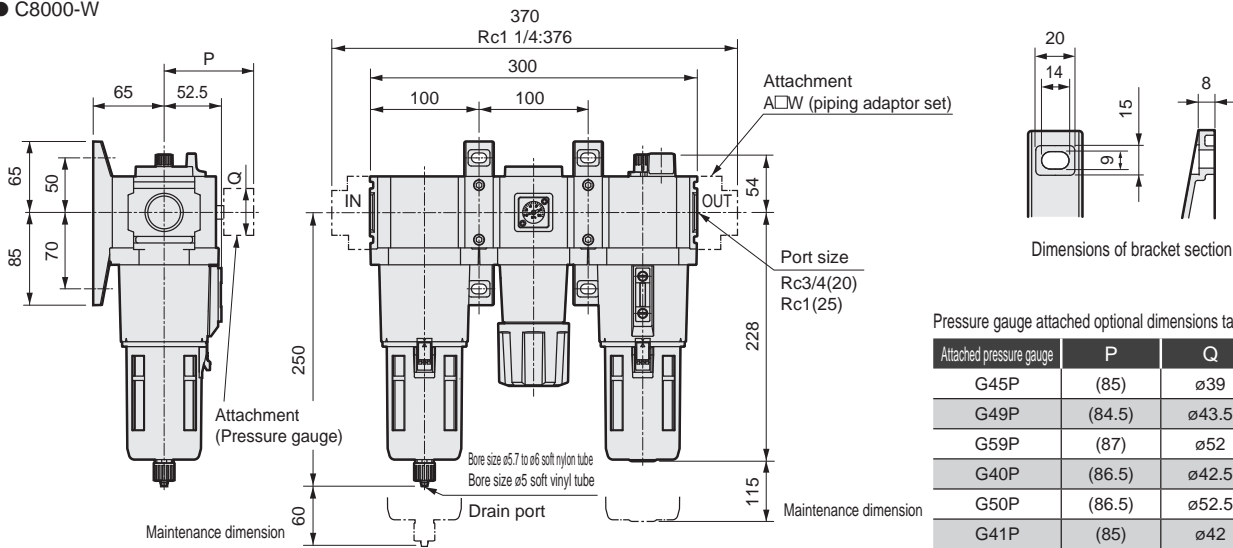
Attached pressure gauge	P	Q
G45P	(80)	$\phi 39$
G49P	(79.5)	$\phi 43.5$
G59P	(82)	$\phi 52$
G40P	(81.5)	$\phi 42.5$
G50P	(81.5)	$\phi 52.5$
G41P	(80)	$\phi 42$
G52P	(93)	$\phi 52.5$

F.R.L. Combination

Option assembly dimensions

Dimensions

● C8000-W



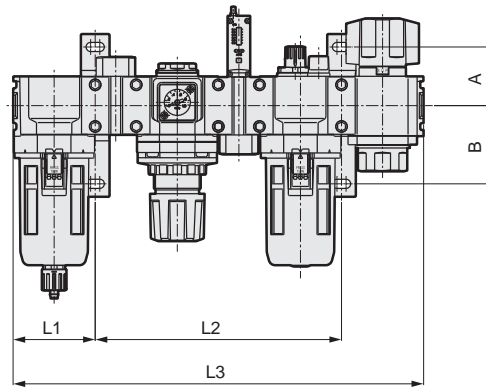
- Refer to page 357 for dimensions of metal bowl option filter, and to page 400 for dimensions of lubricator.

Pressure gauge attached optional dimensions table

Attached pressure gauge	P	Q
G45P	(85)	ø39
G49P	(84.5)	ø43.5
G59P	(87)	ø52
G40P	(86.5)	ø42.5
G50P	(86.5)	ø52.5
G41P	(85)	ø42
G52P	(98)	ø52.5

Option assembly dimensions

● C1000-W to C8000-W



Model no.	A	B
C1000-W	35	45
C2000-W	45	60
C2500-W		
C3000-W		
C4000-W		
C6050-W	50	70
C8000-W		

Assembled option	D			S			P			V			K			DS			DP			DV			DK		
	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
C1000-W	40	68	148	40	68	148	-	-	-	40	80	160	-	-	-	40	96	176	-	-	-	40	108	188	-	-	-
C2000-W	50	81.5	194.5	50	81.5	194.5	50	130	243	50	113	226	50	113	226	50	113	226	50	161.5	274.5	50	144.5	257.5	50	144.5	257.5
C2500-W	63	81.5	207.5	63	81.5	207.5	63	130	256	63	113	239	63	113	239	63	113	239	63	161.5	287.5	63	144.5	270.5	63	144.5	270.5
C3000-W	63	94.5	220.5	63	94.5	220.5	63	143	269	63	126	252	63	126	252	63	126	252	63	174.5	300.5	63	157.5	283.5	63	157.5	283.5
C4000-W	80	111.5	271.5	80	111.5	271.5	80	160	320	80	160	303	80	160	303	80	143	303	80	191.5	351.5	80	191.5	334.5	80	191.5	334.5
C4000-20-W Note 1	100	111.5	311.5	100	111.5	311.5	100	160	360	100	160	343	100	160	343	100	143	343	100	191.5	391.5	100	191.5	374.5	100	191.5	374.5
C6500-W	90	140	330	90	140	330	-	-	-	-	-	-	90	190	370	90	190	380	-	-	-	-	-	-	90	240	420
C8000-W	100	150	350	100	150	350	-	-	-	-	-	-	100	200	390	100	200	400	-	-	-	-	-	-	100	250	440
Assembled option	DSV			DSK			DPV			DPK			SV			SK			PV			PK					
Model no.	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
C1000-W	40	136	216	-	-	-	-	-	-	-	-	-	40	100	188	-	-	-	-	-	-	-	-	-	-	-	-
C2000-W	50	176	289	50	176	289	50	224.5	337.5	50	224.5	337.5	50	144.5	257.5	50	144.5	257.5	50	193	306	50	193	306	50	193	306
C2500-W	63	176	302	63	176	302	63	224.5	350.5	63	224.5	350.5	63	144.5	270.5	63	144.5	270.5	63	193	319	63	193	319	63	193	319
C3000-W	63	189	315	63	189	315	63	237.5	363.5	63	237.5	363.5	63	157.5	283.5	63	157.5	283.5	63	206	332	63	206	332	63	206	332
C4000-W	80	223	366	80	223	366	80	271.5	414.5	80	271.5	414.5	80	191.5	334.5	80	191.5	334.5	80	240	383	80	240	383	80	240	383
C4000-20-W Note 1	100	223	406	100	223	406	100	271.5	454.5	100	271.5	454.5	100	191.5	374.5	100	191.5	374.5	100	240	423	100	240	423	100	240	423
C6500-W	-	-	-	90	290	470	-	-	-	-	-	-	-	-	-	90	240	420	-	-	-	-	-	-	-	-	-
C8000-W	-	-	-	100	300	490	-	-	-	-	-	-	-	-	-	100	250	440	-	-	-	-	-	-	-	-	-

L1: Dimensions from the IN edge to center of the T-type bracket mounting hole
 L2: Spacing dimensions of the mounting hole from the first T-type bracket to the second T-type bracket
 L3: Dimensions from the IN edge to the OUT edge

* Refer to page 425 for details on bracket mounting hole dimensions.

Note 1: The piping adaptor is assembled on the OUT side. Piping adaptor A400-20-W is attached on the both ends of C4000-20-W.