



Parker-Watts QUBE Modular FRL System

QUBE

Catalog 0304-2

aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding



ENGINEERING YOUR SUCCESS.

Caution, Warning, Offer of Sale

 **CAUTION**

Polyurethane bowls, sight glass and sight domes on these units may be attacked by certain chemicals. Never use solvents like carbon tetrachloride, trichlorethylene, acetone, or paint thinner to clean any parts. These elements can cause crazing or failure of the plastic parts. The polyurethane resin parts are compatible with most hydrocarbon based synthetic lubricants but, before using, check with the manufacturer of the lubricant or oil for compatibility with polyurethane resin.

TO CLEAN POLYURETHANE BOWLS USE MILD SOAP AND WATER ONLY!

 **WARNING**

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application including consequences of any failure, and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

Offer of Sale

The items described in this document are hereby offered for sale by Parker Hannifin Corporation, its subsidiaries or its authorized distributors. This offer and its acceptance are governed by the provisions stated on the separate page of this document entitled "Offer of Sale".

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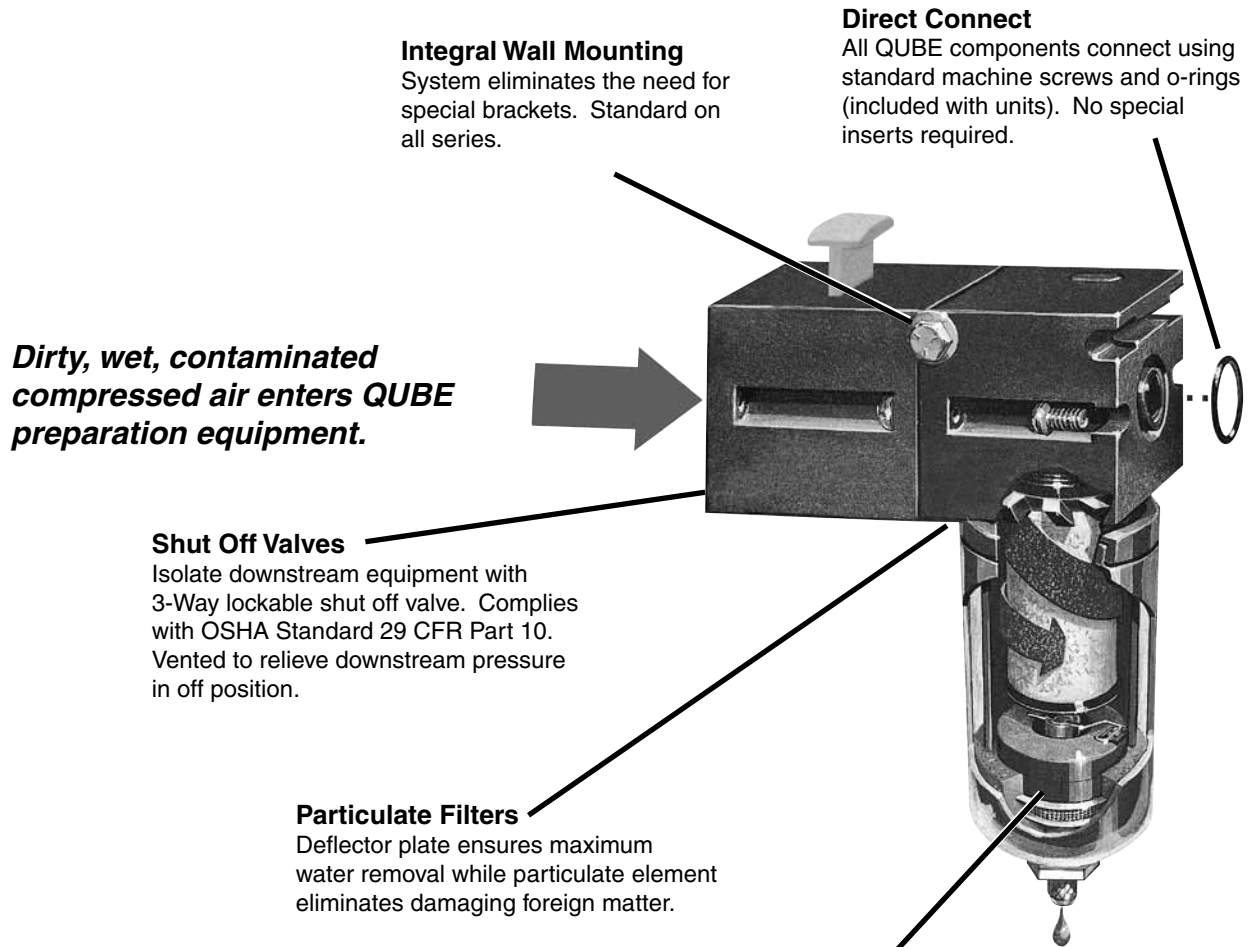
QUBE Features
Filters
Coalescing Filters
Regulators
Lubricators
Integral Filter Regulators
Combination Units
Accessories
Soft Start Valves
Mounting Brackets

Features

QUBE Features
Filters
Coalescing Filters
Regulators
Lubricators
Integral Filter Regulators
Combination Units
Accessories
Soft Start Valves
Mounting Brackets

QUBE Connects you to the Most Advanced Modular Air Preparation Equipment. Designed for Total Flexibility, High Performance and Unlimited Expandability.

Polyurethane Bowls and Sight Gauges Offer Improved Chemical Compatibility.



Integral Wall Mounting
System eliminates the need for special brackets. Standard on all series.

Direct Connect
All QUBE components connect using standard machine screws and o-rings (included with units). No special inserts required.

Dirty, wet, contaminated compressed air enters QUBE preparation equipment.

Shut Off Valves
Isolate downstream equipment with 3-Way lockable shut off valve. Complies with OSHA Standard 29 CFR Part 10. Vented to relieve downstream pressure in off position.

Particulate Filters
Deflector plate ensures maximum water removal while particulate element eliminates damaging foreign matter.

Textured Finish
All QUBE components are textured to provide superior powder coat adhesion and a durable surface finish.

Automatic Float Drain
Optional automatic float drain removes condensate as required. Manual drain standard.

End Plates (not shown)
Mountable to all components. Allow basic component removal without disconnecting pipes.

Features

Filtered clean, regulated, non-lubricated branch line.

Pressure Switch
Provides electric signal when set pressure is achieved.

Differential Pressure Pop Up Indicator
Standard on 71 and 101 Coalescers.

Coalescing Filters
High efficiency .01 micron elements remove damaging oil and water aerosols.

Direction Plates
Rotate connecting components 90°.

Regulators
Accurate high flow regulators with positive snap lock, push / pull adjusting knobs for easy operation.

Soft Start / Quick Exhaust Valve
Combination 3 in 1 valve.

- Solenoid Shut Off Valve
- Autopilot Soft Start Valve
- Quick Exhaust Valve

Filtered clean, regulated air with lubricating oil.

Wraparound Sight Gauge Bowl
All QUBE filters, lubricators, and integrals are available with the Watts Wraparound Sight Gauge Bowl. These unique polyurethane bowls provide the 360° visibility of a plastic bowl while maintaining the high strength and safety features of metal bowls. Transparent polyurethane bowls with guards, and metal bowls, are also available.

Lubricators
Provide consistent lubrication under variable flow conditions. Removable adjusting knob renders lubricator tamperproof (standard). QUBE lubricators are fillable under pressure (except 35 series).

Diverter Blocks
Provides component manifolding and branch lines.

Branch Block
1/8" NPT ports top and bottom.

Pressure Gauges

Filtered clean, regulated, non-lubricated branch line.

QUBE Features
Filters
Coalescing Filters
Regulators
Lubricators
Integral Filter Regulators
Combination Units
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Soft Start Valves
Mounting Brackets

QUBE Features
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F35 Filter



Features

- Compact Size Allows Greater Design Flexibility
- Nearly Double the Flow Capacity of Standard Miniature Filters; Reduces Costly Pressure Drop
- Connects to Other QUBE Units Using Just Screws and O-rings (Included)
- Integral Mounting Slots Eliminate Need for Mounting Brackets
- Excellent Water Removal Efficiency
- Unique Deflector Plate that Creates Swirling of the Air Stream Ensuring Maximum Water and Dirt Separation
- Large Filter Element Surface Guarantees Low Pressure Drop and Increased Element Life
- 20 Micron Filter Element Standard, 5 Micron Available
- Transparent Polyurethane Bowl Standard
- Metal Bowl with Wraparound Sight Gauge Optional
- Manual Drain as Standard, Optional Piston Drain
- Large Bowl Capacity
- High Flow: 1/8" - 32 SCFM[§]
1/4" - 38 SCFM[§]

Polyurethane Bowls and Sight Gauges Offer Improved Chemical Compatibility.



Port Size	NPT	
	Manual Twist Drain	Piston Drain
Polyurethane Bowl		
1/8"	F35-01AH	F35-01AHS
1/4"	F35-02AH	F35-02AHS
Zinc Bowl / Sight Gauge		
1/8"	F35-01WH	F35-01WHS
1/4"	F35-02WH	F35-02WHS

Wraparound Sight Gauge Bowl

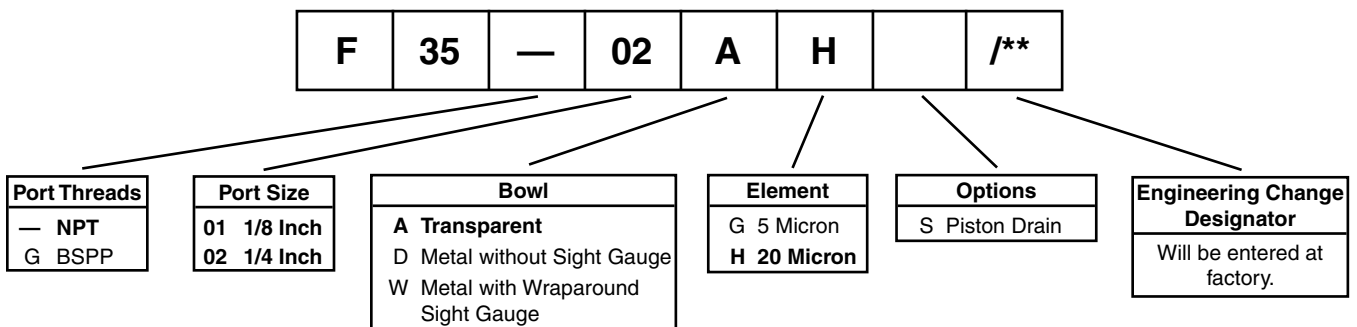
All QUBE filters, lubricators, and integrals are available with the Watts Wraparound Polyurethane Sight Gauge Bowl. These unique bowls provide the 360° visibility of a plastic bowl while maintaining the high strength and safety features of metal bowls. Polyurethane bowls with guards, and metal bowls, are also available.

Bold Items are Most Popular.

For other models refer to ordering information below.

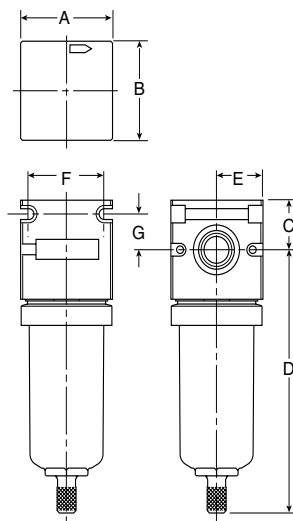
[§] SCFM = Standard Cubic Feet Per Minute at 100 PSIG Inlet, and 5 PSIG Pressure Drop with 20 Micron Element.

Ordering Information



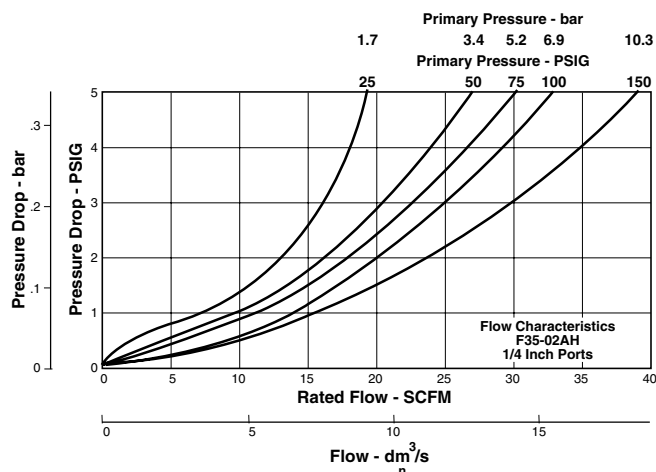
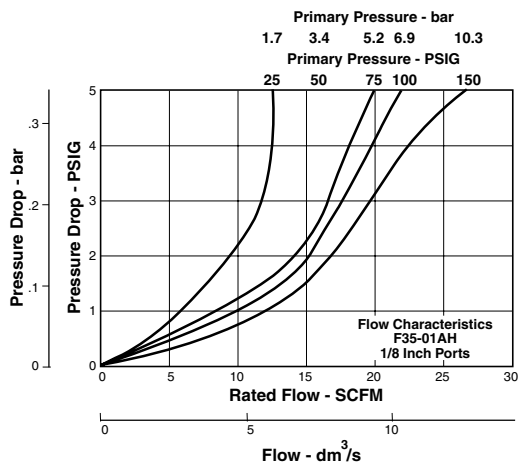
BOLD ITEMS ARE MOST POPULAR.

Technical Information



F35 Filter Dimensions						
A	B	C	D	E	F	G
F35-AH, F35-DH						
1.59 (40.5)	1.59 (40.5)	0.81 (20.6)	4.25 (107.9)	0.80 (20.2)	1.31 (33.3)	0.58 (14.7)
F35-WH						
1.59 (40.5)	1.59 (40.5)	0.81 (20.6)	4.27 (108.3)	0.80 (20.2)	1.31 (33.3)	0.58 (14.7)

Inches
(mm)



F35 Filter Kits & Accessories

Bowl Kits –

- Polyurethane (A).....BKF35A
- Zinc (D).....BKF35D
- Zinc (W) Wraparound Sight Gauge BKF35W

Drain Kits –

- Manual Twist DrainSA600Y7-1
- Piston (Max. Pressure: 175 PSIG)..... PKF35
- Semi-Automatic “Overnight” Drain SA602A7
(Drains automatically under zero pressure)

Filter Element Kits –

- 5 Micron (All)EK504VY
- 20 Micron (All)EK504Y

Face Mounting Bracket Kit (See Page 35)SAR35Y57

Repair Kit –

- Deflector, Retainer (All) RFK30

Specifications

Bowl Capacity 1.5 Ounce

Port Threads1/8, 1/4 Inch

Pressure & Temperature Ratings –

- Polyurethane Bowl..... 0 to 150 PSIG (0 to 10.2 bar)
40°F to 125°F (4.4°C to 52°C)

- Zinc Bowl..... 0 to 300 PSIG (0 to 20.4 bar)
40°F to 180°F (4.4°C to 82.2°C)
- With Piston Drain..... 175 PSIG Max. Press. (11.9 bar)
40°F to 150°F (4.4°C to 65.6°C)
- Zinc Bowl w/ Sight Gauge 0 to 250 PSIG (0 to 17.2 bar)
- With Piston Drain..... 175 PSIG Max. Press. (11.9 bar)
40°F to 150°F (4.4°C to 65.6°C)

Weight –

- Polyurethane Bowl..... 0.7 lb. (0.3 kg) / Unit
18.9 lb. (8.6 kg) / 24-unit Master Pack
- Zinc Bowl..... 0.9 lb. (0.4 kg) / Unit
23.9 lb. (10.8 kg) / 24-unit Master Pack
- Zinc Bowl W/ Sight Gauge..... 0.96 lb. (0.4 kg) / Unit
25.1 lb. (11.4 kg) / 24-unit Master Pack

Materials of Construction

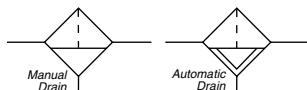
- BodyZinc**
- Bowls Polyurethane
Metal (Zinc)**
- Drains Brass**
- Filter Elements Polypropylene**
- Seals Nitrile**



QUBE Features
Filters
Coalescing Filters
Regulators
Lubricators
Integral Filter Regulators
Combination Units
Accessories
Soft Start Valves
Mounting Brackets

QUBE Features
Filters
Coalescing Filters
Regulators
Lubricators
Integral Filter Regulators
Combination Units
Accessories
Soft Start Valves
Mounting Brackets

F75 Filter



Features

- Compact Size Allows Greater Design Flexibility
- Connects to Other QUBE Units Using Just Screws and O-rings (Included)
- Integral Mounting Slots Eliminate Need for Mounting Brackets
- Excellent Water Removal Efficiency
- For Applications Requiring Minimum Pressure Drop
- Unique Deflector Plate that Creates Swirling of the Air Stream Ensuring Maximum Water and Dirt Separation
- Large Filter Element Surface Guarantees Low Pressure Drop and Increased Element Life
- 40 Micron Filter Element Standard, 5 Micron Available
- Transparent Polyurethane Bowl with Bowl Guard as Standard
- Metal Bowl with Wraparound Sight Gauge Optional
- Manual Drain as Standard, Optional Auto Float Drain
- Large Bowl Capacity
- High Flow: 1/4" - 43 SCFM[§]
 3/8" - 1/2" - 73 SCFM[§]

Polyurethane Bowls and Sight Gauges Offer Improved Chemical Compatibility.



Port Size	NPT	
	Manual Twist Drain	Piston Drain
Polyurethane Bowl / Plastic Guard		
1/4"	F75-02BJ	F75-02BJR
3/8"	F75-03BJ	F75-03BJR
1/2"	F75-04BJ	F75-04BJR
Zinc Bowl / Sight Gauge		
1/4"	F75-02WJ	F75-02WJR
3/8"	F75-03WJ	F75-03WJR
1/2"	F75-04WJ	F75-04WJR

Wraparound Sight Gauge Bowl

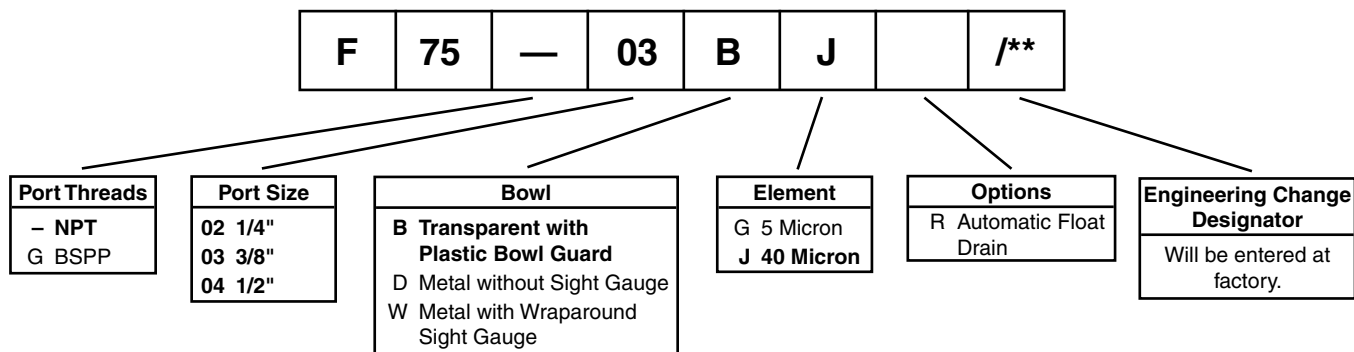
All QUBE filters, lubricators, and integrals are available with the Watts Wraparound Polyurethane Sight Gauge Bowl. These unique bowls provide the 360° visibility of a plastic bowl while maintaining the high strength and safety features of metal bowls. Polyurethane bowls with guards, and metal bowls, are also available.

Bold Items are Most Popular.

For other models refer to ordering information below.

[§] SCFM = Standard Cubic Feet Per Minute at 100 PSIG Inlet, and 5 PSIG Pressure Drop with 40 Micron Element.

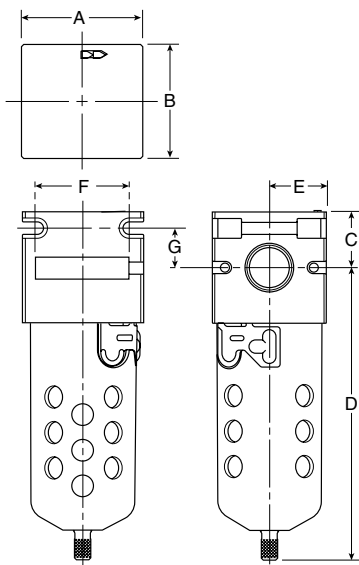
Ordering Information



BOLD ITEMS ARE MOST POPULAR.



Technical Information



F75 Filter Dimensions						
A	B	C	D	E	F	G
F75-BJ, F75-DJ						
2.19 (55.6)	2.19 (55.6)	1.01 (25.4)	5.19 (131.8)	1.09 (27.8)	1.66 (42.1)	0.70 (17.9)
F75-WJ						
2.19 (55.6)	2.19 (55.6)	1.01 (25.4)	5.31 (134.9)	1.09 (27.8)	1.66 (42.1)	0.70 (17.9)

Inches
(mm)

F75 Filter Kits & Accessories

Bowl Kits –

- Polyurethane (B)..... BKF55B
- Metal (D) BKF55D
- Metal (W) Wraparound Sight Gauge BKF55W

Drain Kits –

- Internal Auto (Max. Pressure: 175 PSIG) (B & D)..... SA602MD
- Internal Auto (Max. Pressure: 175 PSIG) (W)..... SAF105MD
- Manual Twist Drain SA600Y7-1
- Semi-Automatic “Overnight” Drain SA602A7
(Drains automatically under zero pressure)

Filter Element Kits –

- 5 Micron (All) EK55G
- 40 Micron (All) EK55J

Face Mounting Bracket Kit (See Page 37) SAR75Y57

Repair Kits –

- Deflector, Retainer..... RFK55
- Internal Float Drain RK602MD

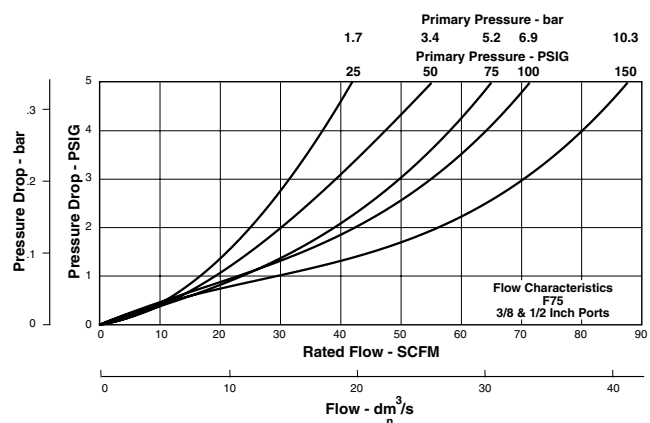
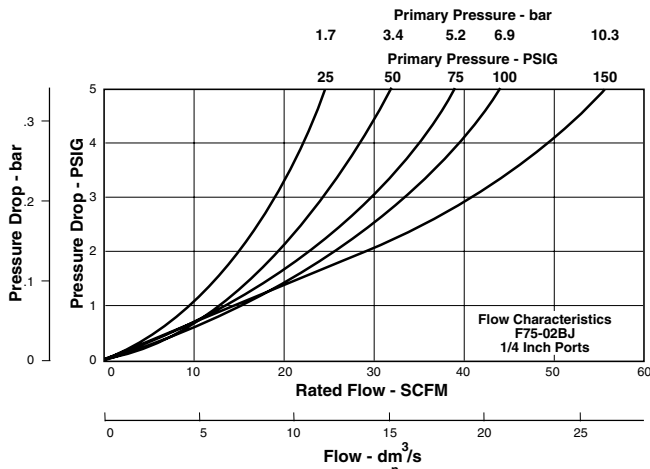
Specifications

Bowl Capacity 3.8 Ounce

Port Threads 1/4, 3/8, 1/2 Inch

Pressure & Temperature Ratings –

- Polyurethane Bowl..... 0 to 150 PSIG (0 to 10.2 bar)
40°F to 125°F (4.4°C to 52°C)



- Zinc Bowl..... 0 to 300 PSIG (0 to 20.4 bar)
40°F to 180°F (4.4°C to 82.2°C)
- With Automatic Float Drain 175 PSIG Max. Press. (11.9 bar)
40°F to 125°F (4.4°C to 52°C)
- Zinc Bowl w/ Sight Gauge 0 to 250 PSIG (0 to 17.2 bar)
40°F to 150°F (4.4°C to 65.6°C)
- With Automatic Float Drain 175 PSIG Max. Press. (11.9 bar)
40°F to 125°F (4.4°C to 52°C)

Weight –

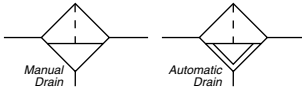
- Polyurethane Bowl..... 1.25 lb. (0.57 kg) / Unit
25 lb. (11.3 kg) / 20-unit Master Pack
- Zinc Bowl..... 1.50 lb. (0.68 kg) / Unit
30 lb. (13.6 kg) / 20-unit Master Pack
- Zinc Bowl W/ Sight Gauge..... 1.60 lb. (0.73 kg) / Unit
32 lb. (14.5 kg) / 20-unit Master Pack

Materials of Construction

- Body** Zinc
- Bowls** Polyurethane
Metal (Zinc)
- Drains** Brass
- Filter Elements** Polyethylene
- Seals** Nitrile

QUBE Features
Filters
Coalescing Filters
Regulators
Lubricators
Integral Filter Regulators
Combination Units
Accessories
Soft Start Valves
Mounting Brackets

F105 Filter



Features

- Connects to Other QUBE Units Using Just Screws and O-rings (Included)
- Integral Mounting Slots Eliminate Need for Mounting Brackets
- Excellent Water Removal Efficiency
- For Applications Requiring Minimum Pressure Drop
- Unique Deflector Plate that Creates Swirling of the Air Stream Ensuring Maximum Water and Dirt Separation
- Large Filter Element Surface Guarantees Low Pressure Drop and Increased Element Life
- 40 Micron Filter Element Standard, 5 Micron Available
- Transparent Polyurethane Bowl with Bowl Guard as Standard
- Metal Bowl with Wraparound Sight Gauge Optional
- Manual Drain as Standard, Optional Auto Float Drain
- Large Bowl Capacity
- High Flow: 1/2" - 120 SCFM[§]
 3/4" - 160 SCFM[§]

Polyurethane Bowls and Sight Gauges Offer Improved Chemical Compatibility.



Port Size	NPT	
	Manual Twist Drain	Automatic Float Drain
Polyurethane Bowl / Plastic Guard		
1/2"	F105-04BJ	F105-04BJR
3/4"	F105-06BJ	F105-06BJR
Metal Bowl / Sight Gauge		
1/2"	F105-04WJ	F105-04WJR
3/4"	F105-06WJ	F105-06WJR

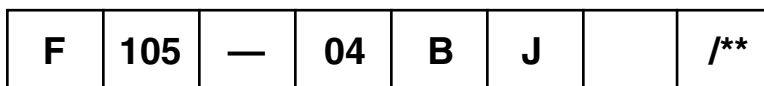
Wraparound Sight Gauge Bowl
 All QUBE filters, lubricators, and integrals are available with the Watts Wraparound Polyurethane Sight Gauge Bowl. These unique bowls provide the 360° visibility of a plastic bowl while maintaining the high strength and safety features of metal bowls. Polyurethane bowls with guards, and metal bowls, are also available.

Bold Items are Most Popular.

For other models refer to ordering information below.

[§] SCFM = Standard Cubic Feet Per Minute at 100 PSIG Inlet, and 5 PSIG Pressure Drop with 40 Micron Element.

Ordering Information



Port Threads
— NPT
G BSPP

Port Size
04 1/2"
06 3/4"

Bowl
B Transparent with Plastic Bowl Guard
D Metal without Sight Gauge
W Metal with Wraparound Sight Gauge

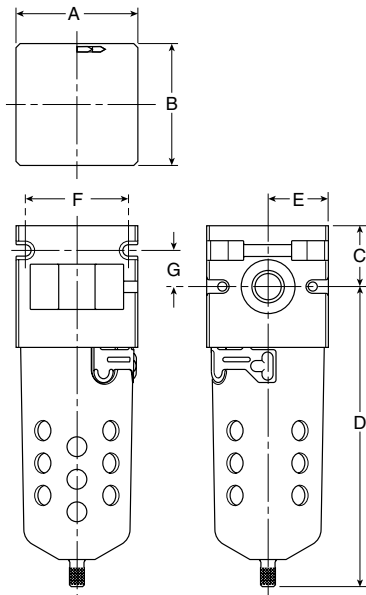
Element
G 5 Micron
J 40 Micron

Options
R Automatic Float Drain

Engineering Change Designator
Will be entered at factory.

BOLD ITEMS ARE MOST POPULAR.

Technical Information



F105 Filter Dimensions								
A*	A†	B	C	D	E	F*	F†	G
F105-BJ, F105-DJ								
2.69 (68.3)	3.03 (77.0)	2.69 (68.3)	1.34 (34.1)	6.66 (169.1)	1.35 (34.3)	2.27 (57.6)	2.55 (64.8)	0.88 (22.2)
F105-WJ								
2.69 (68.3)	3.03 (77.0)	2.69 (68.3)	1.34 (34.1)	6.66 (169.1)	1.35 (34.3)	2.27 (57.6)	2.55 (64.8)	0.88 (22.2)

Inches (mm)
 * 3/8 and 1/2 Inch Ports
 † 3/4 Inch Ports

F105 Filter Kits & Accessories

- Bowl Kits –**
 Polyurethane (B)..... BKF105B
 Metal (D)..... BKF105D
 Metal (W) Wraparound Sight Gauge BKF105W

- Drain Kits –**
 Manual Twist Drain SA600Y7-1
 Internal Auto (Max. Pressure: 175 PSIG) (B & D)..... SA602MD
 Internal Auto (Max. Pressure: 175 PSIG) (W)..... SAF105MD
 Semi-Automatic “Overnight” Drain..... SA602A7
 (Drains automatically under zero pressure)

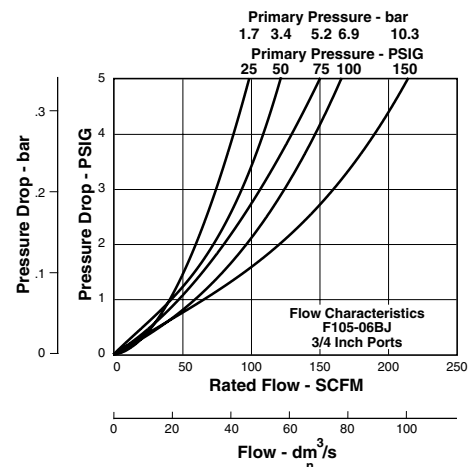
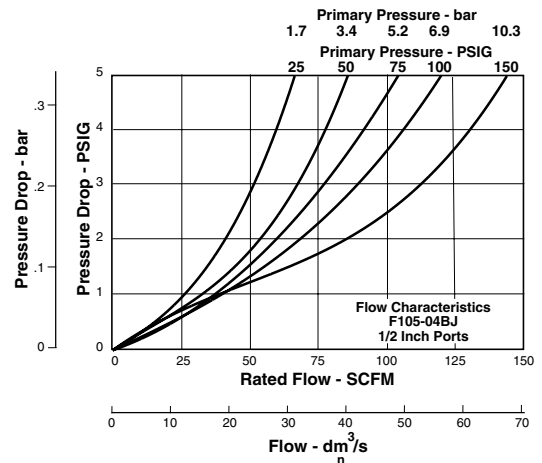
- Filter Element Kits –**
 5 Micron (All)EKF100G
 40 Micron (All)EKF100J

- Face Mounting Bracket Kit (See Page 39)SAR105Y57**

- Repair Kits –**
 Deflector, Retainer..... RFK100
 Internal Float Drain..... RK602MD

Specifications

- Bowl Capacity**8.5 Ounce
Port Threads1/2, 3/4 Inch
Pressure & Temperature Ratings –
 Polyurethane Bowl..... 0 to 150 PSIG (0 to 10.2 bar)
 40°F to 125°F (4.4°C to 52°C)



- Zinc Bowl..... 0 to 300 PSIG (0 to 20.4 bar)
 40°F to 180°F (4.4°C to 82.2°C)
 With Automatic Float Drain..... 175 PSIG Max. Press. (11.9 bar)
 40°F to 125°F (4.4°C to 52°C)
 Zinc Bowl w/ Sight Gauge 0 to 250 PSIG (0 to 17.2 bar)
 40°F to 150°F (4.4°C to 65.6°C)
 With Automatic Float Drain..... 175 PSIG Max. Press. (11.9 bar)
 40°F to 125°F (4.4°C to 52°C)

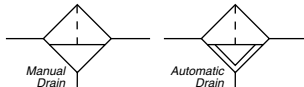
- Weight –**
 Polyurethane Bowl..... 1.10 lb. (0.50 kg) / Unit
 10.8 lb. (4.9 kg) / 8-unit Master Pack
 Zinc Bowl..... 1.54 lb. (0.70 kg) / Unit
 14.3 lb. (6.5 kg) / 8-unit Master Pack
 Zinc Bowl W/ Sight Gauge..... 1.74 lb. (0.79 kg) / Unit
 15.9 lb. (7.2 kg) / 8-unit Master Pack

Materials of Construction

- Body**Aluminum
Bowls Polyurethane
 Metal (Zinc)
Drains Brass
Filter Elements Polypropylene
Seals Nitrile

QUBE Features
 Filters
 Coalescing Filters
 Regulators
 Lubricators
 Integral Filter Regulators
 Combination Units
 Accessories
 Soft Start Valves
 Mounting Brackets

F31 Coalescing Filter



Features

- Compact Size Allows Greater Design Flexibility
- Connects to Other QUBE Units Using Just Screws and O-rings (Included)
- Integral Mounting Slots Eliminate Need for Mounting Brackets
- Removes Oil and Water Aerosols, as Well as Particulate Matter Down To 0.01 Micron.
- Pleated Element for Longer Life and Lower Pressure Drop
- Large Filter Element Surface Guarantees Low Pressure Drop and Increased Element Life
- Activated Carbon Elements Available for Oil Vapor Removal
- Transparent Polyurethane Bowl Standard
- Metal Bowl with Wraparound Sight Gauge Optional
- Manual Drain as Standard, Optional Piston Drain
- Large Bowl Capacity
- High Flow: 1/8" & 1/4" - 20 SCFM[§]

Polyurethane Bowls and Sight Gauges Offer Improved Chemical Compatibility.



Port Size	NPT	
	Manual Twist Drain	Piston Drain
Polyurethane Bowl		
1/8"	F31-01AH	F31-01AHS
1/4"	F31-02AH	F31-02AHS
Zinc Bowl / Sight Gauge		
1/8"	F31-01WH	F31-01WHS
1/4"	F31-02WH	F31-02WHS

Wraparound Sight Gauge Bowl

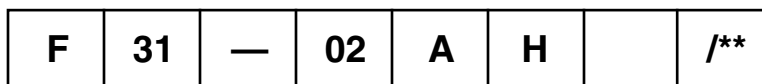
All QUBE filters, lubricators, and integrals are available with the Watts Wraparound Polyurethane Sight Gauge Bowl. These unique bowls provide the 360° visibility of a plastic bowl while maintaining the high strength and safety features of metal bowls. Polyurethane bowls with guards, and metal bowls, are also available.

Bold Items are Most Popular.

For other models refer to ordering information below.

[§] SCFM = Standard Cubic Feet Per Minute at 100 PSIG Inlet, and 5 PSIG Pressure Drop.

Ordering Information



Port Threads
— NPT
G BSPP

Port Size
01 1/8"
02 1/4"

Bowl
A Transparent
D Metal without Sight Gauge
W Metal with Wraparound Sight Gauge

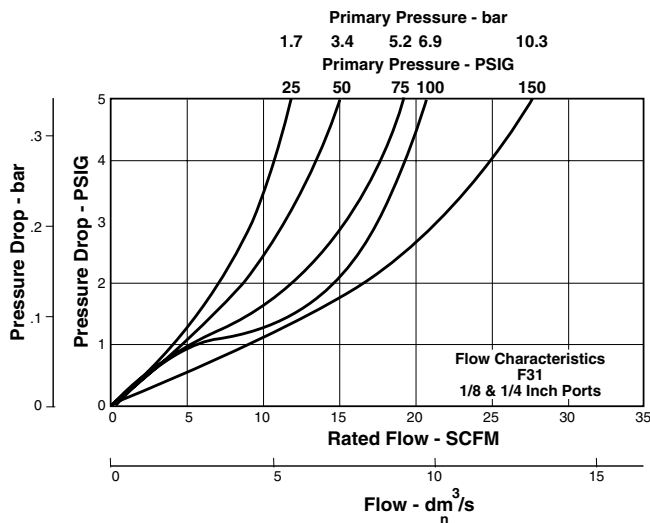
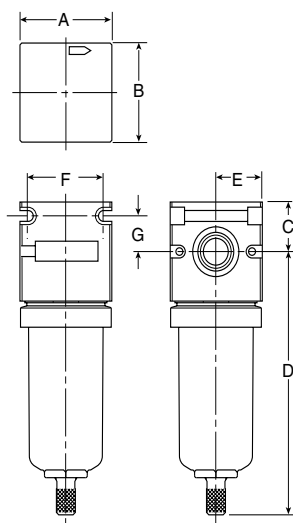
Element
H .01 Micron

Options
S Piston Drain

Engineering Change Designator
Will be entered at factory.

BOLD ITEMS ARE MOST POPULAR.

Technical Information



F31 Filter Dimensions						
A	B	C	D	E	F	G
F31-AH, F31-DH						
1.59 (40.5)	1.59 (40.5)	0.81 (20.6)	4.25 (107.9)	0.80 (20.2)	1.31 (33.3)	0.58 (14.7)
F31-WH						
1.59 (40.5)	1.59 (40.5)	0.81 (20.6)	4.27 (108.3)	0.80 (20.2)	1.31 (33.3)	0.58 (14.7)

Inches
(mm)

F31 Coalescing Filter Kits & Accessories

Bowl Kits –

- Polyurethane (A)..... BKF35A
- Zinc (D).....BKF35D
- Zinc (W) Wraparound Sight Gauge BKF35W

Drain Kits –

- Manual Twist Drain SA600Y7-1
- Piston (Max. Pressure: 175 PSIG).....RK504SY
- Semi-Automatic “Overnight” Drain SA602A7
(Drains automatically under zero pressure)

Filter Element Kits –

- Activated Carbon EKF31A
- Coalescing EKF31

Face Mounting Bracket Kit (See Page 35) SAR35Y57

Specifications

Bowl Capacity 1.5 Ounce

Port Threads 1/4, 3/8 Inch

Pressure & Temperature Ratings –

- Polyurethane Bowl..... 0 to 150 PSIG (0 to 10.2 bar)
40°F to 125°F (4.4°C to 52°C)
- Zinc Bowl..... 0 to 300 PSIG (0 to 20.4 bar)
40°F to 180°F (4.4°C to 82.2°C)

- With Piston Drain..... 175 PSIG Max. Press. (11.9 bar)
40°F to 150°F (4.4°C to 65.6°C)
- Zinc Bowl w/ Sight Gauge 0 to 250 PSIG (0 to 17.2 bar)
- With Piston Drain..... 175 PSIG Max. Press. (11.9 bar)
40°F to 150°F (4.4°C to 65.6°C)

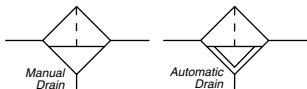
Weight –

- Polyurethane Bowl..... 0.7 lb. (0.31 kg) / Unit
7 lb. (3.18 kg) / 24-unit Master Pack
- Zinc Bowl..... 0.9 lb. (0.41 kg) / Unit
23.9 lb. (10.8 kg) / 24-unit Master Pack
- Zinc Bowl W/ Sight Gauge..... 0.96 lb. (0.44 kg) / Unit
25.1 lb. (11.4 kg) / 24-unit Master Pack

Materials of Construction

- Body**Zinc
- Bowls**..... Polyurethane
Metal (Zinc)
- Coalescing Element**Borosilicate Fiber & Polyamide Foam
- Carbon Element** Acetal 30% Glass Filled Activated Carbon
- Drain** Brass
- Seals**..... Buna-N

F71 Coalescing Filter



Features

- Compact Size Allows Greater Design Flexibility
- Connects to Other QUBE Units Using Just Screws and O-rings (Included)
- Integral Mounting Slots Eliminate Need for Mounting Brackets
- Removes Oil and Water Aerosols, as Well as Particulate Matter Down To 0.01 Micron.
- Pleated Element for Longer Life and Lower Pressure Drop
- Integral Pop-up Style Element Service Life Indicator
- Large Filter Element Surface Guarantees Low Pressure Drop and Increased Element Life
- Activated Carbon Elements Available for Oil Vapor Removal
- Transparent Polyurethane Bowl with Bowl Guard as Standard
- Metal Bowl with Wraparound Sight Gauge Optional
- Manual Drain as Standard, Optional Auto Float Drain
- Large Bowl Capacity
- High Flow: 1/4", 3/8", 1/2" - 43 SCFM[§]

Polyurethane Bowls and Sight Gauges Offer Improved Chemical Compatibility.



Wraparound Sight Gauge Bowl

All QUBE filters, lubricators, and integrals are available with the Watts Wraparound Polyurethane Sight Gauge Bowl. These unique bowls provide the 360° visibility of a plastic bowl while maintaining the high strength and safety features of metal bowls. Polyurethane bowls with guards, and metal bowls, are also available.

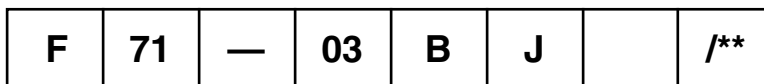
Port Size	NPT	
	Manual Twist Drain	Piston Drain
Polyurethane Bowl / Plastic Guard		
1/4"	F71-02BJ	F71-02BJR
3/8"	F71-03BJ	F71-03BJR
1/2"	F71-04BJ	F71-04BJR
Zinc Bowl / Sight Gauge		
1/4"	F71-02WJ	F71-02WJR
3/8"	F71-03WJ	F71-03WJR
1/2"	F71-04WJ	F71-04WJR

Bold Items are Most Popular.

For other models refer to ordering information below.

[§] SCFM = Standard Cubic Feet Per Minute at 100 PSIG Inlet, and 5 PSIG Pressure Drop.

Ordering Information



Port Threads
— NPT
G BSPP

Port Size
02 1/4"
03 3/8"
04 1/2"

Bowl
B Transparent with Plastic Bowl Guard
D Metal without Sight Gauge
W Metal with Wraparound Sight Gauge

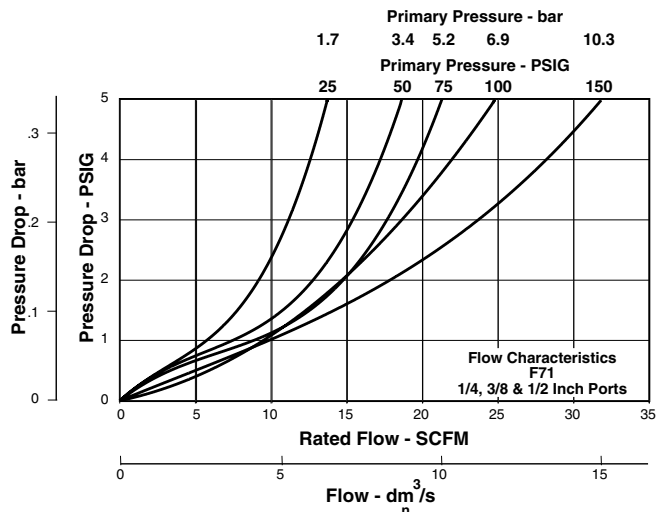
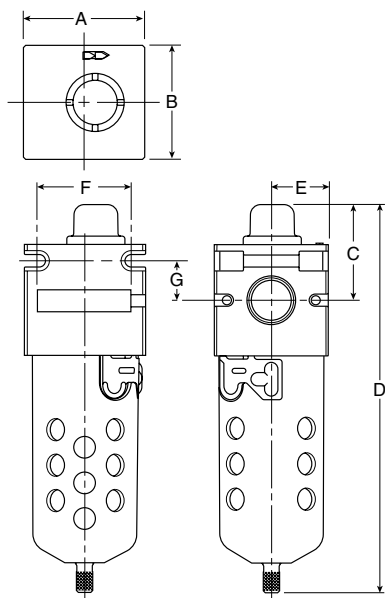
Element
J .01 Micron

Options
R Automatic Float Drain

Engineering Change Designator
Will be entered at factory.

BOLD ITEMS ARE MOST POPULAR.

Technical Information



F71 Coalescing Filter Dimensions						
A	B	C	D	E	F	G
F71-BJ, F71-DJ						
2.19 (55.6)	2.06 (52.4)	1.72 (43.7)	6.91 (175.4)	1.03 (26.2)	1.66 (42.1)	0.71 (17.9)
F71-WJ						
2.19 (55.6)	2.06 (52.4)	1.72 (43.7)	7.16 (181.8)	1.03 (26.2)	1.63 (41.3)	0.71 (17.9)

Inches
(mm)

F71 Coalescing Filter Kits & Accessories

Bowl Kits –

- Polyurethane (B)..... BKF55B
- Metal (D) BKF55D
- Metal (W) Wraparound Sight Gauge BKF55W

Drain Kits –

- Manual Twist Drain SA600Y7-1
- Internal Auto (Max. Pressure: 175 PSIG) (B & D)..... SA602MD
- Internal Auto (Max. Pressure: 175 PSIG) (W)..... SAF105MD
- Semi-Automatic "Overnight" Drain SA602A7
 (Drains automatically under zero pressure)

Filter Element Kits –

- Activated Carbon EKF71A
- Coalescing EKF71

Face Mounting Bracket Kit (See Page 37) SAR75Y57

Repair Kits –

- Internal Float Drain RK602MD

Specifications

Bowl Capacity 3.8 Ounce

Port Threads 1/4, 3/8, 1/2 Inch

Pressure & Temperature Ratings –

- Polyurethane Bowl..... 0 to 150 PSIG (0 to 10.2 bar)
 40°F to 125°F (4.4°C to 52°C)

- Zinc Bowl..... 0 to 300 PSIG (0 to 20.4 bar)
 40°F to 180°F (4.4°C to 82.2°C)
- With Automatic Float Drain..... 175 PSIG Max. Press. (11.9 bar)
 40°F to 125°F (4.4°C to 52°C)
- Zinc Bowl w/ Sight Gauge 0 to 250 PSIG (0 to 17.2 bar)
 40°F to 150°F (4.4°C to 65.6°C)
- With Automatic Float Drain..... 175 PSIG Max. Press. (11.9 bar)
 40°F to 125°F (4.4°C to 52°C)

Weight –

- Polyurethane Bowl..... 1.25 lb. (0.57 kg) / Unit
 25 lb. (11.3 kg) / 20-unit Master Pack
- Zinc Bowl..... 1.50 lb. (0.68 kg) / Unit
 30 lb. (13.6 kg) / 20-unit Master Pack
- Zinc Bowl W/ Sight Gauge..... 1.60 lb. (0.73 kg) / Unit
 32 lb. (14.5 kg) / 20-unit Master Pack

Materials of Construction

- Body Zinc**
- Bowls Polyurethane
 Metal (Zinc)**
- Coalescing Element Borosilicate Fiber & Polyamide Foam**
- Carbon Element Acetal 30% Glass Filled Activated Carbon**
- Drain Brass**
- Seals Buna-N**



QUBE Features

Filters

Coalescing Filters

Regulators

Lubricators

Integral Filter Regulators

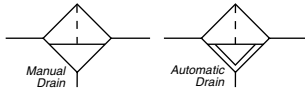
Combination Units

Accessories

Soft Start Valves

Mounting Brackets

F101 Coalescing Filter



Features

- Connects to Other QUBE Units Using Just Screws and O-rings (Included)
- Integral Mounting Slots Eliminate Need for Mounting Brackets
- Removes Oil and Water Aerosols, as Well as Particulate Matter Down To 0.01 Micron.
- Pleated Element for Longer Life and Lower Pressure Drop
- Integral Pop-up Style Element Service Life Indicator
- Large Filter Element Surface Guarantees Low Pressure Drop and Increased Element Life
- Activated Carbon Elements Available for Oil Vapor Removal
- Transparent Polyurethane Bowl with Bowl Guard as Standard
- Metal Bowl with Wraparound Sight Gauge Optional
- Manual Drain as Standard, Optional Auto Float Drain
- Large Bowl Capacity
- High Flow: 1/2", 3/4" - 85 SCFM[§]

Polyurethane Bowls and Sight Gauges Offer Improved Chemical Compatibility.



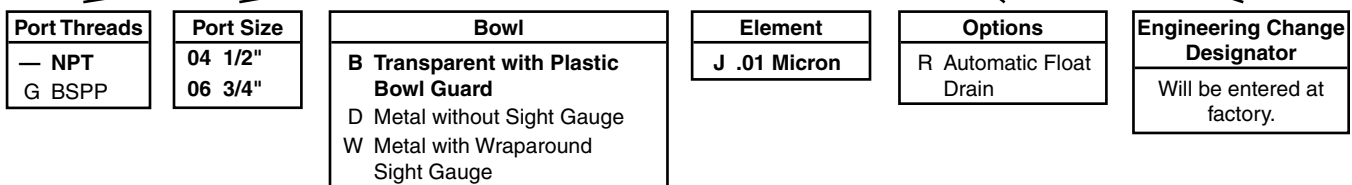
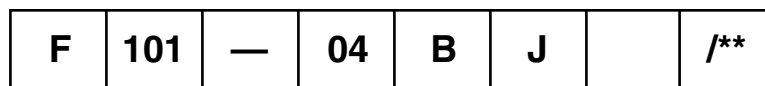
Wraparound Sight Gauge Bowl
 All QUBE filters, lubricators, and integrals are available with the Watts Wraparound Polyurethane Sight Gauge Bowl. These unique bowls provide the 360° visibility of a plastic bowl while maintaining the high strength and safety features of metal bowls. Polyurethane bowls with guards, and metal bowls, are also available.

Port Size	NPT	
	Manual Twist Drain	Automatic Float Drain
Polyurethane Bowl / Plastic Guard		
1/2"	F101-04BJ	F101-04BJR
3/4"	F101-06BJ	F101-06BJR
Metal Bowl / Sight Gauge		
1/2"	F101-04WJ	F101-04WJR
3/4"	F101-06WJ	F101-06WJR

Bold Items are Most Popular.
 For other models refer to ordering information below.

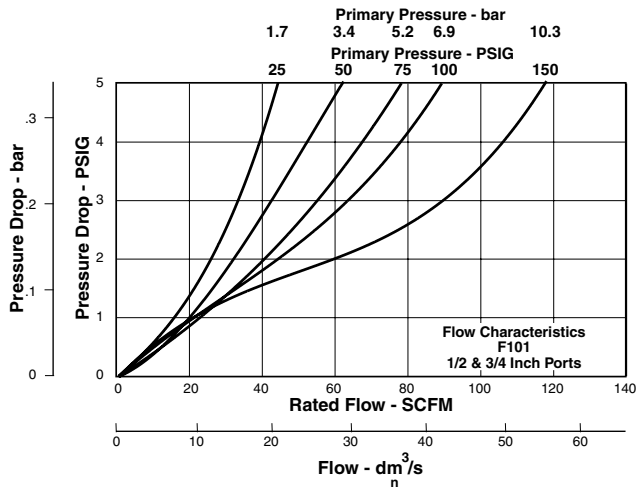
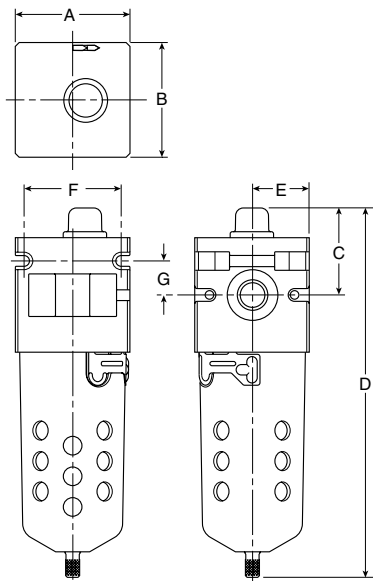
[§] SCFM = Standard Cubic Feet Per Minute at 100 PSIG Inlet, and 5 PSIG Pressure Drop.

Ordering Information



BOLD ITEMS ARE MOST POPULAR.

Technical Information



F101 Coalescing Filter Dimensions								
A*	A†	B	C	D	E	F*	F†	G
F101-BJ, F101-DJ								
2.69 (68.4)	3.03 (77.0)	2.69 (68.4)	2.06 (52.2)	8.59 (218.3)	1.35 (34.3)	2.18 (56.4)	2.55 (64.8)	0.81 (20.6)
F101-WJ								
2.69 (68.4)	3.03 (77.0)	2.69 (68.4)	2.06 (52.2)	8.75 (222.6)	1.35 (34.3)	2.18 (56.4)	2.55 (64.8)	0.81 (20.6)

Inches (mm)
 * 3/8 and 1/2 Inch Ports
 † 3/4 Inch Ports

**F101 Coalescing Filter
 Kits & Accessories**

- Bowl Kits –**
- Polyurethane (B)..... BKF105B
 - Metal (D)..... BKF105D
 - Metal (W) Wraparound Sight Gauge BKF105W

- Drain Kits –**
- Manual Twist Drain SA600Y7-1
 - Internal Auto (Max. Pressure: 175 PSIG) (B & D)..... SA602MD
 - Internal Auto (Max. Pressure: 175 PSIG) (W)..... SAF105MD
 - Semi-Automatic “Overnight” Drain..... SA602A7
 (Drains automatically under zero pressure)

- Filter Element Kits –**
- Activated Carbon EKF101A
 - Coalescing..... EKF101

Face Mounting Bracket Kit (See Page 39).....SAR105Y57

- Repair Kits –**
- Deflector, Element, Retainer RFK100
 - Internal Auto Drain..... RK602MD

Specifications

Bowl Capacity8.5 Ounce

Port Threads1/2, 3/4 Inch

Pressure & Temperature Ratings –
 Polyurethane Bowl..... 0 to 150 PSIG (0 to 10.2 bar)
 40°F to 125°F (4.4°C to 52°C)

- Zinc Bowl 0 to 300 PSIG (0 to 20.4 bar)
 40°F to 180°F (4.4°C to 82.2°C)
- With Automatic Float Drain..... 175 PSIG Max. Press. (11.9 bar)
 40°F to 125°F (4.4°C to 52°C)
- Zinc Bowl w/ Sight Gauge 0 to 250 PSIG (0 to 17.2 bar)
- With Automatic Float Drain..... 175 PSIG Max. Press. (11.9 bar)
 40°F to 125°F (4.4°C to 52°C)

- Weight –**
- Polyurethane Bowl..... 1.10 lb. (0.50 kg) / Unit
 10.8 lb. (4.9 kg) / 8-unit Master Pack
 - Zinc Bowl 1.54 lb. (0.70 kg) / Unit
 14.3 lb. (6.5 kg) / 8-unit Master Pack
 - Zinc Bowl W/ Sight Gauge..... 1.74 lb. (0.79 kg) / Unit
 15.9 lb. (7.2 kg) / 8-unit Master Pack

Materials of Construction

- Body**Zinc
- Bowls** Polyurethane
 Metal (Zinc)
- Coalescing Element**Borosilicate Fiber & Polyamide Foam
- Carbon Element** Acetal 30% Glass Filled Activated Carbon
- Drains** Brass
- Seals** Buna-N

QUBE Features

Filters

Coalescing Filters

Regulators

Lubricators

Integral Filter Regulators

Combination Units

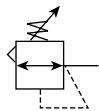
Accessories

Soft Start Valves

Mounting Brackets

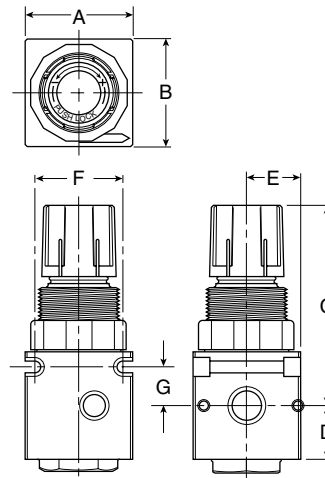
QUBE Features
Filters
Coalescing Filters
Regulators
Lubricators
Integral Filter Regulators
Combination Units
Accessories
Soft Start Valves
Mounting Brackets

R35 Regulator



Features

- Compact Size Allows Greater Design Flexibility
- Nearly Double the Flow Capacity of Standard Miniature Regulators; Reduces Costly Pressure Drop
- Connects to Other QUBE Units Using Just Screws and O-rings (Included)
- Integral Mounting Slots Eliminate Need for Mounting Brackets
- Piston Operated for High Flow and Low Pressure Drop
- Panel Mountable
- High Flow: 1/8" - 30 SCFM[§]
 1/4" - 40 SCFM[§]



Port Size	NPT	
	Relieving	
Without Gauge 0-125 PSIG Reduced Pressure		
1/8"	R35-01C	
1/4"	R35-02C	
With Gauge 0-125 PSIG Reduced Pressure		
1/8"	R35-01CG	
1/4"	R35-02CG	

R35 Regulator Dimensions						
A	B	C	D	E	F	G
1.59 (40.6)	1.59 (40.6)	2.98 (75.7)	1.11 (28.2)	0.80 (20.3)	1.31 (33.3)	0.58 (14.6)

Inches
(mm)

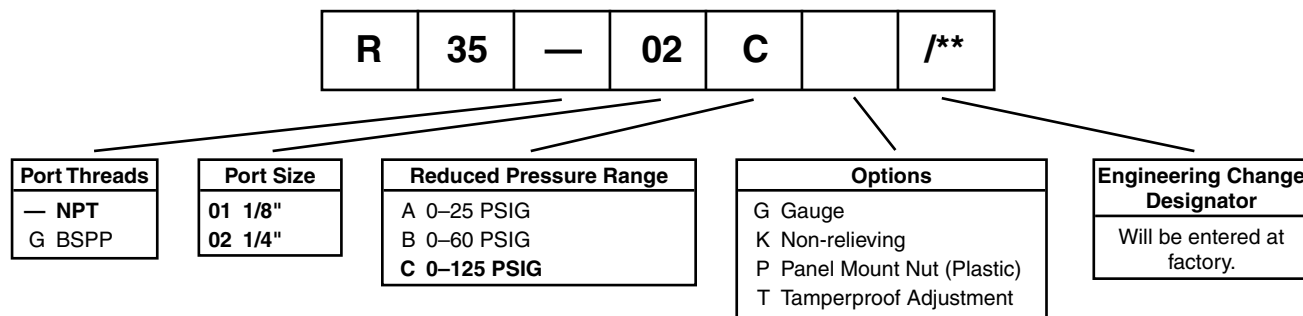
NOTE: 1.25 Dia. (32mm) hole required for panel mounting.

Bold Items are Most Popular.

For other models refer to ordering information below.

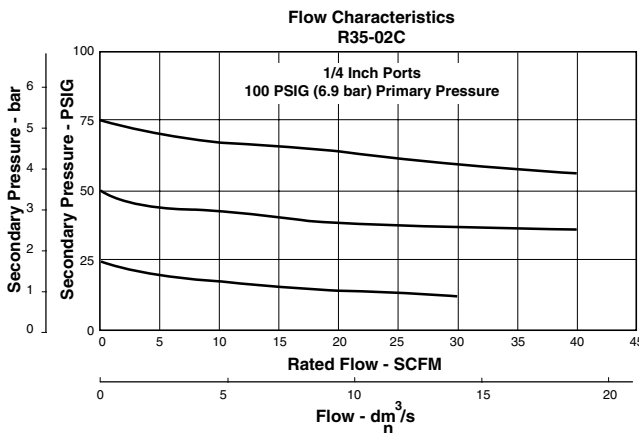
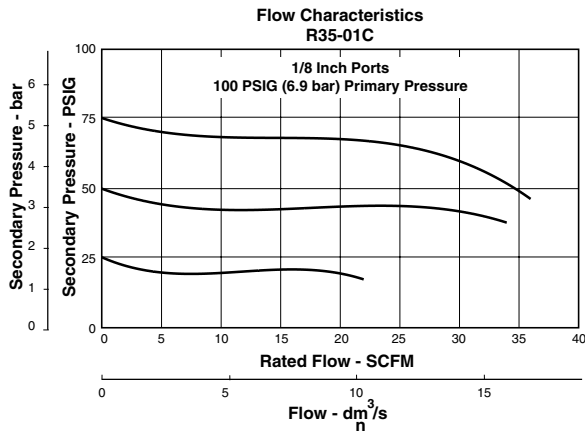
[§] SCFM = Standard Cubic Feet Per Minute at 100 PSIG Inlet, 75 PSIG No Flow Secondary Setting, and 20 PSIG Pressure Drop.

Ordering Information



BOLD ITEMS ARE MOST POPULAR.

Technical Information



⚠ WARNING
 Product rupture can cause serious injury.
 Do not connect regulator to bottled gas.
 Do not exceed maximum primary pressure rating.

⚠ CAUTION:
REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design. For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

R35 Regulator Kits & Accessories

- Cage Kits –**
 A Range..... CKR35A
 B & C Range.....CKR35BC
- Control Knob** R35-0545P
- Gauges –**
 1-1/2" Dial Size, 1/8" Back Connection
 0 to 60 PSIG (0 to 4 bar) K4515N18060
 1-1/2" Dial Size, 1/8" Back Connection
 0 to 160 PSIG (0 to 11 bar) K4515N18160
- Panel Mounting Bracket Kit (Bonnet Threads)** SA161X57
Face Mounting Bracket Kit (See Page 35)SAR35Y57
- Panel Mount Nut –**
 Plastic.....R05X51-P
 Aluminum.....R05X51-A
- Repair Kits –**
 Non-Relieving Piston, Valve Assembly RKR30K
 Relieving Piston, Valve Assembly.....RKR30

Specifications

- Gauge Ports (2)**1/8 Inch
Port Threads 1/8 & 1/4 Inch
Supply Pressure300 PSIG Max. (20,4 bar)
Temperature Rating40°F to 125°F (4.4°C to 52°C)
Weight0.82 lbs. (.37 kg) / Unit
 19.8 lbs. (8.98 kg) / 24-unit Master Pack

Materials of Construction

- Adjusting Knob** Acetal
BodyZinc
Bottom Plug Glass-Filled Acetal
Cage Plastic
Elastomers Buna-N



QUBE Features
 Filters
 Coalescing Filters
 Regulators
 Lubricators
 Integral Filter Regulators
 Combination Units
 Accessories
 Soft Start Valves
 Mounting Brackets

R75 Regulator

QUBE Features

Filters

Coalescing Filters

Regulators

Lubricators

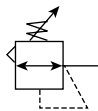
Integral Filter Regulators

Combination Units

Accessories

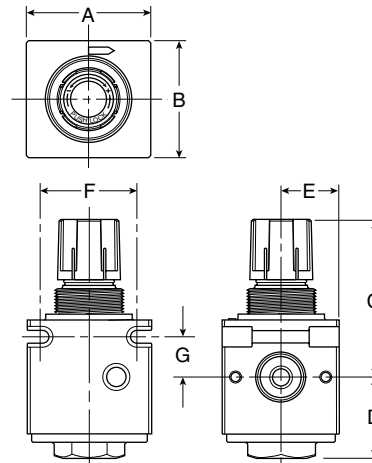
Soft Start Valves

Mounting Brackets



Features

- Compact Size Allows Greater Design Flexibility
- Connects to Other QUBE Units Using Just Screws and O-rings (Included)
- Integral Mounting Slots Eliminate Need for Mounting Brackets
- Diaphragm Operated Design with Balanced Poppet Design for Quick and Accurate Regulation
- Panel Mountable
- High Flow: 1/4" - 25 SCFM[§]
 3/8" - 45 SCFM[§]
 1/2" - 60 SCFM[§]



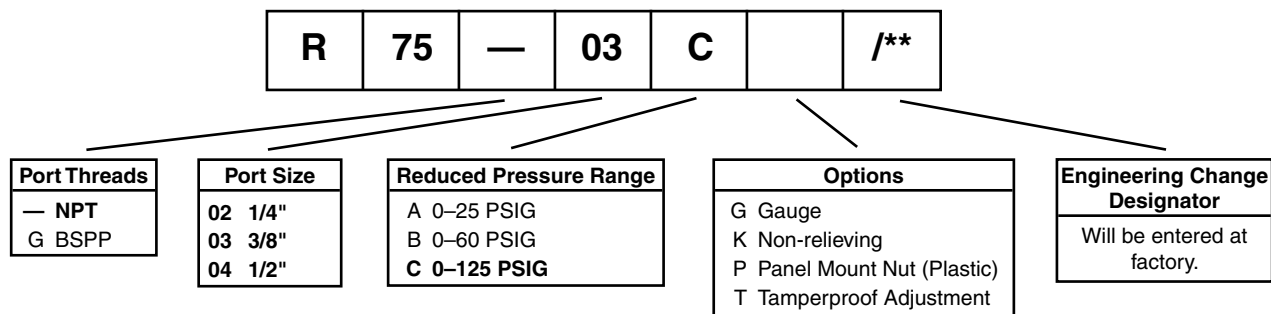
Port Size	NPT	
	Relieving	
Without Gauge 0-125 PSIG Reduced Pressure		
1/4"	R75-02C	
3/8"	R75-03C	
1/2"	R75-04C	
With Gauge 0-125 PSIG Reduced Pressure		
1/4"	R75-02CG	
3/8"	R75-03CG	
1/2"	R75-04CG	

R75 Regulator Dimensions						
A	B	C	D	E	F	G
2.19 (55.6)	2.06 (52.4)	2.75 (69.8)	1.38 (34.9)	1.09 (27.8)	1.66 (42.1)	0.69 (17.5)

Inches
(mm)
 NOTE: 1.25 Dia. (32mm) hole required for panel mounting.

Bold Items are Most Popular.
For other models refer to ordering information below.
[§] SCFM = Standard Cubic Feet Per Minute at 100 PSIG Inlet, 75 PSIG No Flow Secondary Setting, and 20 PSIG Pressure Drop.

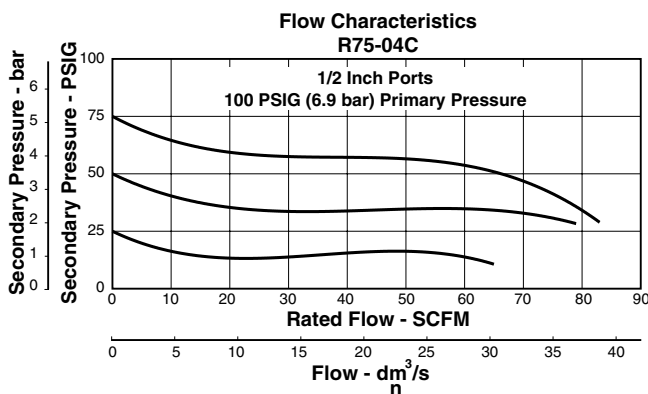
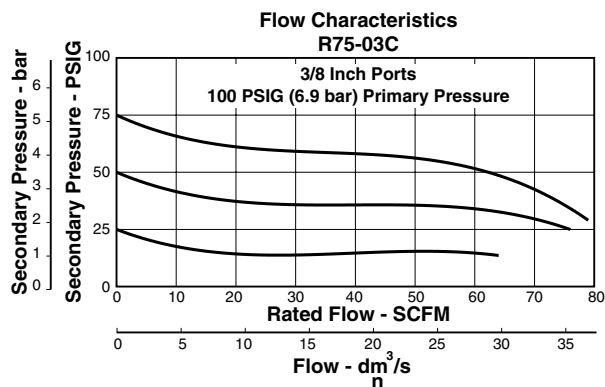
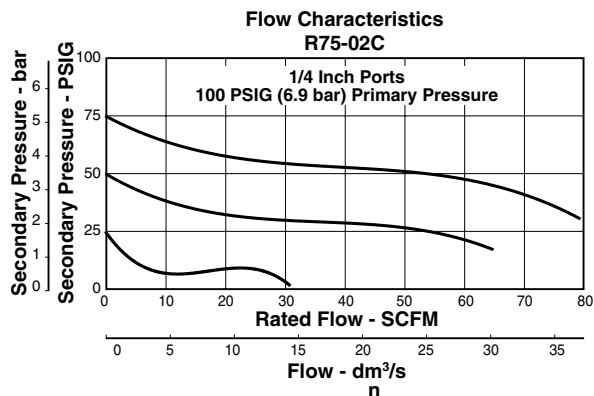
Ordering Information



BOLD ITEMS ARE MOST POPULAR.



Technical Information



⚠ WARNING
 Product rupture can cause serious injury.
 Do not connect regulator to bottled gas.
 Do not exceed maximum primary pressure rating.

⚠ CAUTION:
REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design. For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

R75 Regulator Kits & Accessories

- Cage Kits**–
 - StandardCKR75
 - TamperproofCKR75T
- Control Knob** R35-0545P
- Gauges** –
 - 1-1/2" Dial Size, 1/8" Back Connection
 0 to 60 PSIG (0 to 4 bar) K4515N18060
 - 1-1/2" Dial Size, 1/8" Back Connection
 0 to 160 PSIG (0 to 11 bar) K4515N18160
- Panel Mounting Bracket Kit** SA161X57
- Face Mounting Bracket Kit (See Page 37)**SAR75Y57
- Panel Mount Nut** –
 - PlasticR05X51-P
 - AluminumR05X51-A
- Repair Kits** –
 - Non-Relieving Diaphragm, Valve Assembly RKR75K
 - Relieving Diaphragm, Valve AssemblyRKR75

Specifications

- Gauge Ports (2)**1/8 Inch
- Port Threads** 1/4, 3/8 & 1/2 Inch
- Supply Pressure**300 PSIG Max. (20,4 bar)
- Temperature Rating**40°F to 125°F (4.4°C to 52°C)
- Weight** 1.35 lbs. (.61 kg) / unit
 27 lbs. (12.24 kg) / 20-unit Master Pack

Materials of Construction

- Adjusting Knob** Acetal
- Body**Zinc
- Bottom Plug** Glass-Filled Acetal
- Cage** Glass-Filled Acetal
- Elastomers** Buna-N



QUBE Features

Filters

Coalescing Filters

Regulators

Lubricators

Integral Filter Regulators

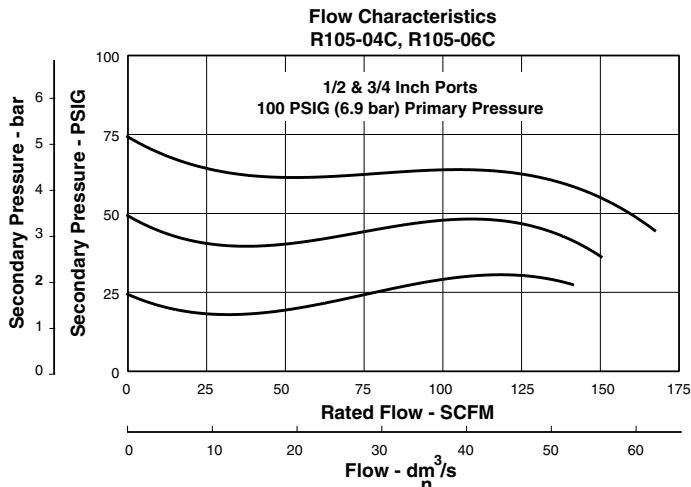
Combination Units

Accessories

Soft Start Valves

Mounting Brackets

Technical Information



⚠ WARNING
Product rupture can cause serious injury.
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.

⚠ CAUTION:
REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design. For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

R105 Regulator Kits & Accessories

- Cage Kit –**
 Cage Assembly with Knob.....CKR105
- Control Knob** R105-0542P
- Gauges –**
 2" Dial Size, 1/4" Back Connection
 0 to 60 PSIG (0 to 4 bar) K4520N14060
 2" Dial Size, 1/4" Back Connection
 0 to 160 PSIG (0 to 11 bar) K4520N14160
 2" Dial Size, 1/4" Back Connection
 0 to 300 PSIG (0 to 20,7 bar) K4520N14300
- Panel Mounting Bracket Kit (Bonnet Threads)**SAR10Y57
- Face Mounting Bracket Kit (See Page 39)**.....SAR10Y57
- Panel Mount Nut –**
 Plastic.....R10X51-P
 Aluminum.....R10X51-A
- Repair Kits –**
 Non-Relieving Diaphragm, Valve Assembly RKR105K
 Relieving Diaphragm, Valve Assembly RKR105

Specifications

- Gauge Ports (2)**1/4 Inch
- Port Threads** 1/2 & 3/4 Inch
- Supply Pressure**300 PSIG Max. (20,4 bar)
- Temperature Rating**40°F to 150°F (4.4°C to 65.5°C)
- Weight** 1.64 lbs. (.74 kg) / unit

Materials of Construction

- Adjusting Knob** Acetal
- Body**Aluminum
- Bottom Plug**Zinc
- Cage**Glass-Filled Acetal Plastic
- Elastomers** Buna-N

QUBE Features

Filters

Coalescing Filters

Regulators

Lubricators

Integral Filter Regulators

Combination Units

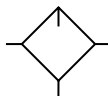
Accessories

Soft Start Valves

Mounting Brackets

QUBE Features
Filters
Coalescing Filters
Regulators
Lubricators
Integral Filter Regulators
Combination Units
Accessories
Soft Start Valves
Mounting Brackets

L35 Lubricator



Features

- Compact Size Allows Greater Design Flexibility
- Nearly Double the Flow Capacity of Standard Miniature Filters; Reduces Costly Pressure Drop
- Connects to Other QUBE Units Using Just Screws and O-rings (Included)
- For Applications Requiring Minimum Pressure Drop
- Transparent Polyurethane Bowl Standard
- Metal Bowl with Wraparound Sight Gauge Optional
- Precision Needle Valve Assures Repeatable Oil Delivery and Provides Simple Adjustment of Delivery Rate.
- Large Capacity Bowl
- High Flow: 1/8" - 23 SCFM[§]
1/4" - 45 SCFM[§]

Polyurethane Bowls and Sight Gauges Offer Improved Chemical Compatibility.



Wraparound Sight Gauge Bowl

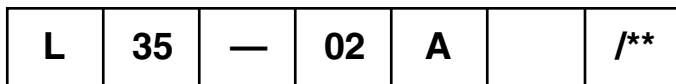
All QUBE filters, lubricators, and integrals are available with the Watts Wraparound Polyurethane Sight Gauge Bowl. These unique bowls provide the 360° visibility of a plastic bowl while maintaining the high strength and safety features of metal bowls. Polyurethane bowls with guards, and metal bowls, are also available.

Port Size	NPT	
	No Drain	Manual Twist Drain
Polyurethane Bowl		
1/8"	L35-01A	L35-01AX9
1/4"	L35-02A	L35-02AX9
Zinc Bowl / Sight Gauge		
1/8"	L35-01W	L35-01W
1/4"	L35-02W	L35-02W

Bold Items are Most Popular.
For other models refer to ordering information below.

§ SCFM = Standard Cubic Feet Per Minute at 100 PSIG Inlet, and 5 PSIG Pressure Drop.

Ordering Information



Port Threads
— NPT
G BSPP

Port Size
01 1/8"
02 1/4"

Bowl
A Transparent
D Metal without Sight Gauge
W Metal with Wraparound Sight Gauge

Options
X9 Manual Twist Drain on Plastic Bowl (Increases product length by 9/16")

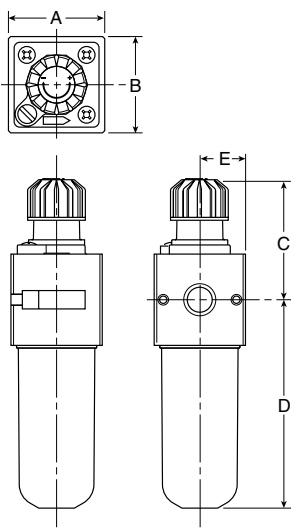
Engineering Change Designator
Will be entered at factory.

Draincock Standard on D & W Bowls.

BOLD ITEMS ARE MOST POPULAR.

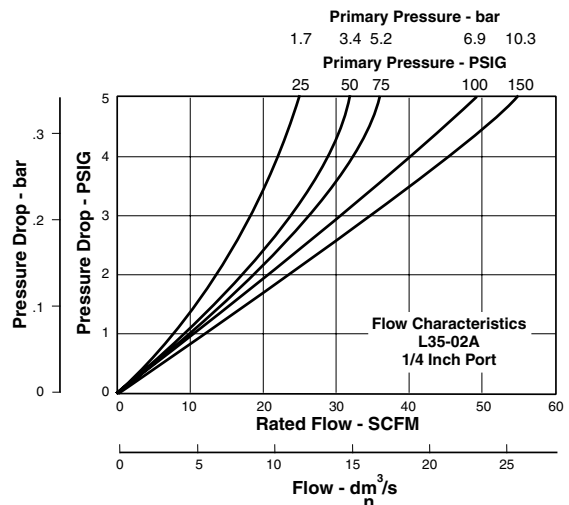
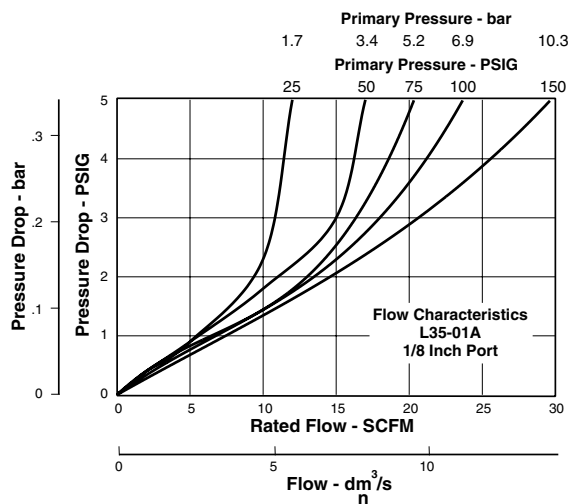


Technical Information



L35 Lubricator Dimensions				
A	B	C	D	E
L35-A				
1.59 (40.6)	1.59 (40.6)	2.09 (53.5)	3.66 (92.8)	0.80 (20.3)
L35-D				
1.59 (40.6)	1.59 (40.6)	2.09 (53.5)	3.63 (92.3)	0.80 (20.3)
L35-W				
1.59 (40.6)	1.59 (40.6)	2.09 (53.5)	3.84 (97.6)	0.80 (20.3)

Inches
(mm)



L35 Lubricator Kits & Accessories

Bowl Kits –

- Polyurethane (A).....BKL35A
- Zinc (D).....BKF35D
- Zinc (W) Wraparound Sight Gauge BKF35W

Oil –

- 1 Gal.....F442002
- 12 Quart Case.....F442003
- 4 Gallon Case.....F442005

Face Mounting Bracket Kit (See Page 35)..... SAR35Y57

Repair Kit –

- Tamper-resistant Sight Dome (All).....RKL100

Specifications

Bowl Capacity 1.5 Ounce

Port Threads..... 1/8, 1/4 Inch

Pressure & Temperature Ratings –

- Polyurethane Bowl.....0 to 150 PSIG (0 to 10.2 bar)
 40°F to 125°F (4.4°C to 52°C)
- Zinc Bowl0 to 300 PSIG (0 to 20.4 bar)
 40°F to 150°F (4.4°C to 65.6°C)

Zinc Bowl w/ Sight Gauge 0 to 250 PSIG (0 to 17.2
 40°F to 150°F (4.4°C to 65.6°C)

Suggested Lubricant F442 Oil

Petroleum-based oil of 100 to 200 SUS viscosity at 100°F and an aniline point greater than 200°F

(DO NOT USE OILS WITH ADDITIVES, COMPOUNDED OILS CONTAINING SOLVENTS, GRAPHITE, DETERGENTS, OR SYNTHETIC OILS.)

Weight –

- Polyurethane Bowl..... 0.7 lb. (0.3 kg) / Unit
 18.9 lb. (8.6 kg) / 24-unit Master Pack
- Zinc Bowl..... 0.94 lb. (0.4 kg) / Unit
 24.7 lb. (11.2 kg) / 24-unit Master Pack
- Zinc Bowl W/ Sight Gauge.....1.00 lb. (0.5 kg) / Unit
 26.1 lb. (11.8 kg) / 24-unit Master Pack

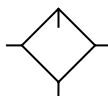
Materials of Construction

- Body**..... Zinc
- Bowls**..... Polyurethane
 Metal (Zinc)
- Drains** Brass
- Seals** Nitrile

QUBE Features
Filters
Coalescing Filters
Regulators
Lubricators
Integral Filter Regulators
Combination Units
Accessories
Soft Start Valves
Mounting Brackets

QUBE Features
Filters
Coalescing Filters
Regulators
Lubricators
Integral Filter Regulators
Combination Units
Accessories
Soft Start Valves
Mounting Brackets

L75 Lubricator



Features

- Compact Size Allows Greater Design Flexibility
- Connects to Other QUBE Units Using Just Screws and O-rings (Included)
- Integral Mounting Slots Eliminate Need for Mounting Brackets
- For Applications Requiring Minimum Pressure Drop
- Transparent Polyurethane Bowl with Bowl Guard as Standard
- Metal Bowl with Wraparound Sight Gauge Optional
- Drain Standard on Metal Bowl and Metal Bowl with Sight Gauge
- Can be Filled While Unit is Under Pressure
- Precision Needle Valve Assures Repeatable Oil Delivery and Provides Simple Adjustment of Delivery Rate.
- Large Capacity Bowl
- High Flow: 1/4" - 15 SCFM[§]
 3/8" - 80 SCFM[§]
 1/2" - 80 SCFM[§]

Polyurethane Bowls and Sight Gauges Offer Improved Chemical Compatibility.



Wraparound Sight Gauge Bowl

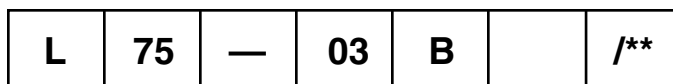
All QUBE filters, lubricators, and integrals are available with the Watts Wraparound Polyurethane Sight Gauge Bowl. These unique bowls provide the 360° visibility of a plastic bowl while maintaining the high strength and safety features of metal bowls. Polyurethane bowls with guards, and metal bowls, are also available.

Port Size	NPT
Polyurethane Bowl / Plastic Guard	
1/4"	L75-02B
3/8"	L75-03B
1/2"	L75-04B
Zinc Bowl / Sight Gauge	
1/4"	L75-02W
3/8"	L75-03W
1/2"	L75-04W

Bold Items are Most Popular.
For other models refer to ordering information below.

§ SCFM = Standard Cubic Feet Per Minute at 100 PSIG Inlet, and 5 PSIG Pressure Drop.

Ordering Information



Port Threads
— NPT
G BSPP

Port Size
02 1/4"
03 3/8"
04 1/2"

Bowl
B Transparent with Plastic Bowl Guard
W Metal with Wraparound Sight Gauge

Options
Q Buttonhead Fill Fitting
X9 Manual Twist Drain on Plastic Bowl (Increases product length by 9/16")

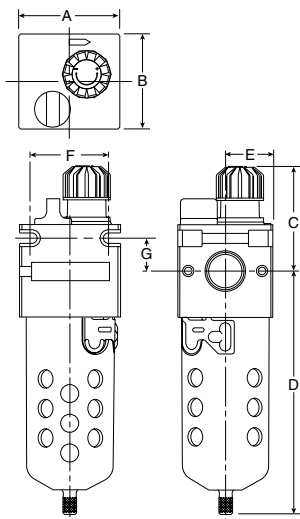
Draincock Standard on D & W Bowls.

Engineering Change Designator
Will be entered at factory.

BOLD ITEMS ARE MOST POPULAR.



Technical Information



L75 Lubricator Dimensions						
A	B	C	D	E	F	G
L75-B						
2.19 (55.6)	2.00 (52.1)	2.44 (56.3)	4.72 (119.8)	1.00 (25.4)	1.66 (42.1)	0.72 (17.9)
L75-D						
2.19 (55.6)	2.00 (52.1)	2.44 (56.3)	5.15 (130.9)	1.00 (25.4)	1.66 (42.1)	0.70 (17.9)
L75-W						
2.19 (55.6)	2.00 (52.1)	2.44 (56.3)	5.37 (136.4)	1.00 (25.4)	1.66 (42.1)	0.70 (17.9)

Inches
(mm)

L75 Lubricator Kits & Accessories

Bowl Kits –

- Polyurethane (B).....BKL55B
- Zinc (D).....BKF55D
- Zinc (W) Wraparound Sight Gauge BKF55W

Button Head Fill Fitting L606C14
(M14 male thread)

Drain Kits –

- Manual Twist Drain SA600Y7-1

Oil –

- 1 Gal.F442002
- 12 Quart CaseF442003
- 4 Gallon CaseF442005

Face Mounting Bracket Kit (See Page 37) SAR75Y57

Repair Kit –

- Tamper-resistant Sight Dome (All)..... RFL100

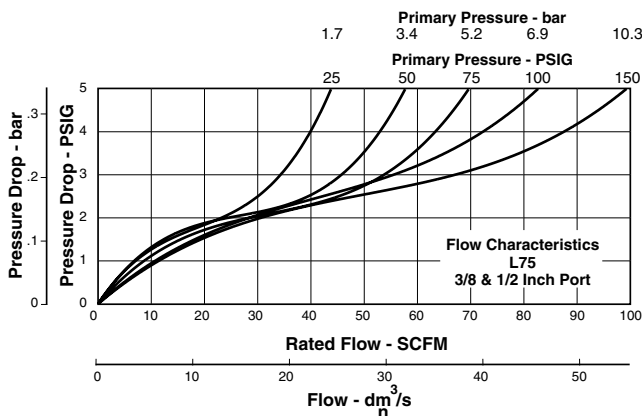
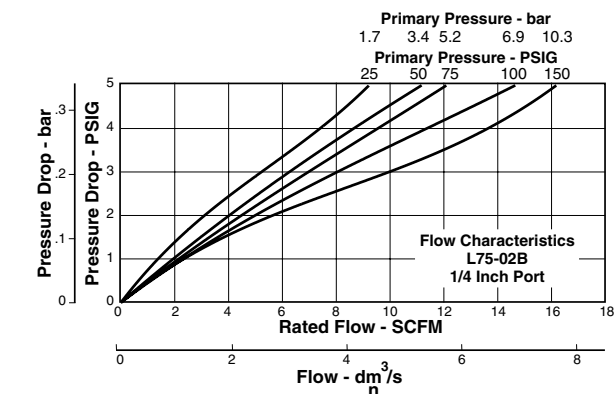
Specifications

Bowl Capacity 3.8 Ounce

Port Threads 1/4, 3/8 & 1/2 Inch

Pressure & Temperature Ratings –

- Polyurethane Bowl.....0 to 150 PSIG (0 to 10.2 bar)
40°F to 125°F (4.4°C to 52°C)
- Zinc Bowl0 to 300 PSIG (0 to 20.4 bar)
40°F to 150°F (4.4°C to 65.6°C)



Zinc Bowl w/ Sight Gauge0 to 250 PSIG (0 to 17.2 bar)
40°F to 150°F (4.4°C to 65.6°C)

Suggested Lubricant F442 Oil

Petroleum-based oil of 100 to 200 SUS viscosity at 100°F and an aniline point greater than 200°F

(DO NOT USE OILS WITH ADDITIVES, COMPOUNDED OILS CONTAINING SOLVENTS, GRAPHITE, DETERGENTS, OR SYNTHETIC OILS.)

Weight –

- Polyurethane Bowl..... 1.25 lb. (0.6 kg) / Unit
25 lb. (11.3 kg) / 20-unit Master Pack
- Zinc Bowl..... 1.50 lb. (0.7 kg) / Unit
30 lb. (13.6 kg) / 20-unit Master Pack
- Zinc Bowl W/ Sight Gauge..... 1.60 lb. (0.7 kg) / Unit
32 lb. (14.5 kg) / 20-unit Master Pack

Materials of Construction

- BodyZinc
- Bowls Polyurethane
Metal (Zinc)
- Drains Brass
- Fill Fitting Brass
- Seals Nitrile



QUBE Features

Filters

Coalescing Filters

Regulators

Lubricators

Integral Filter Regulators

Combination Units

Accessories

Soft Start Valves

Mounting Brackets

QUBE Features
Filters
Coalescing Filters
Regulators
Lubricators
Integral Filter Regulators
Combination Units
Accessories
Soft Start Valves
Mounting Brackets

L105 Lubricator



Features

- Connects to Other QUBE Units Using Just Screws and O-rings (Included)
- Integral Mounting Slots Eliminate Need for Mounting Brackets
- For Applications Requiring Minimum Pressure Drop
- Transparent Polyurethane Bowl with Bowl Guard as Standard
- Metal Bowl with Wraparound Sight Gauge Optional
- Drain Standard on Metal Bowl and Metal Bowl with Sight Gauge
- Can be Filled While Unit is Under Pressure
- Precision Needle Valve Assures Repeatable Oil Delivery and Provides Simple Adjustment of Delivery Rate.
- Large Capacity Bowl
- High Flow: 1/2" - 110 SCFM[§]
3/4" - 125 SCFM[§]

Polyurethane Bowls and Sight Gauges Offer Improved Chemical Compatibility.



Port Size	NPT
Polyurethane Bowl / Plastic Guard	
1/2"	L105-04B
3/4"	L105-06B
Zinc Bowl / Sight Gauge	
1/2"	L105-04W
3/4"	L105-06W

Wraparound Sight Gauge Bowl

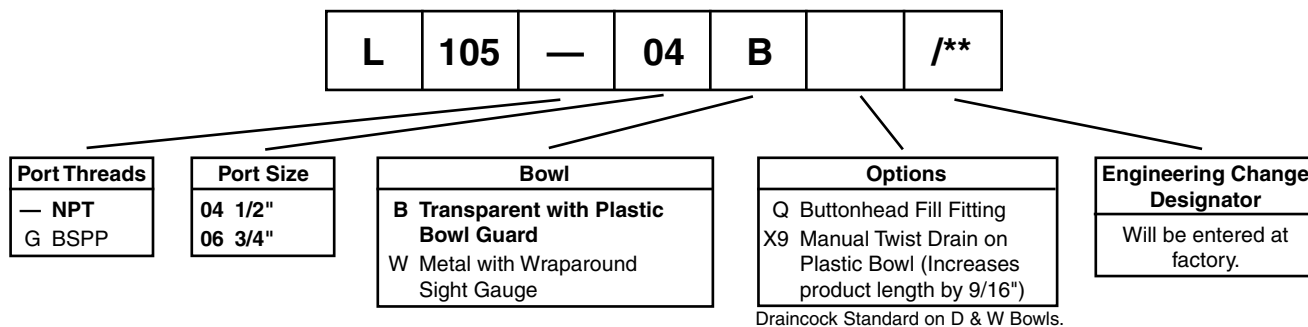
All QUBE filters, lubricators, and integrals are available with the Watts Wraparound Polyurethane Sight Gauge Bowl. These unique bowls provide the 360° visibility of a plastic bowl while maintaining the high strength and safety features of metal bowls. Polyurethane bowls with guards, and metal bowls, are also available.

Bold Items are Most Popular.

For other models refer to ordering information below.

§ SCFM = Standard Cubic Feet Per Minute at 100 PSIG Inlet, and 5 PSIG Pressure Drop.

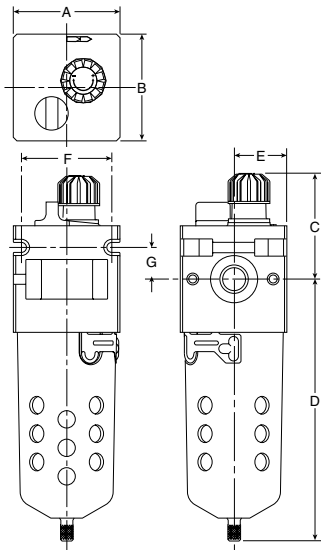
Ordering Information



BOLD ITEMS ARE MOST POPULAR.



Technical Information



L105 Lubricator Dimensions

A*	A†	B	C	D	E	F*	F†	G
L105-B								
2.69 (68.4)	3.03 (77.0)	2.69 (68.4)	3.00 (64.3)	6.03 (153.4)	1.34 (34.1)	2.25 (56.1)	2.55 (64.8)	0.81 (20.3)
L105-D								
2.69 (68.4)	3.03 (77.0)	2.69 (68.4)	3.00 (64.3)	6.62 (168.2)	1.34 (34.1)	2.25 (56.1)	2.55 (64.8)	0.81 (20.3)
LF105-W								
2.69 (68.4)	3.03 (77.0)	2.69 (68.4)	3.00 (64.3)	6.90 (175.3)	1.34 (34.1)	2.25 (56.1)	2.55 (64.8)	0.81 (20.3)

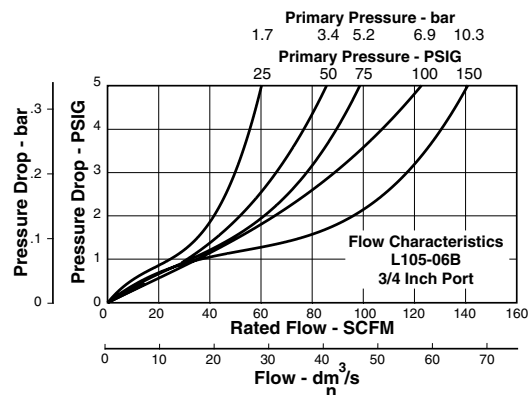
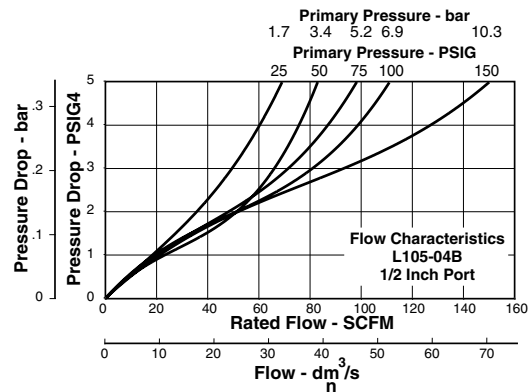
Inches (mm)
 * 3/8 and 1/2 inch ports
 † 3/4 inch ports

L105 Lubricator Kits & Accessories

- Bowl Kits –**
 Polyurethane (B)..... BKL105B
 Zinc (D) (with Drain) BKF105D
 Zinc (W) Wraparound Sight Gauge (with Drain)..... BKF105W
- Button Head Fill Fitting (M14 Male Thread) L606C14**
- Drain Kits –**
 Manual Twist Drain SA600Y7-1
- Oil –**
 1 Gal..... F442002
 12 Quart Case..... F442003
 4 Gallon Case..... F442005
- Face Mounting Bracket Kit (See Page 39)..... SAR105Y57**
- Repair Kit –**
 Tamper-resistant Sight Dome (All)..... RKL100

Specifications

- Bowl Capacity 8.5 Ounce**
- Port Threads 1/2 & 3/4 Inch**
- Pressure & Temperature Ratings –**
 Polyurethane Bowl..... 0 to 150 PSIG (0 to 10.2 bar)
 40°F to 125°F (4.4°C to 52°C)
 Zinc Bowl 0 to 300 PSIG (0 to 20.4 bar)
 40°F to 150°F (4.4°C to 65.6°C)



- Zinc Bowl w/ Sight Gauge 0 to 250 PSIG (0 to 17.2 bar)
 40°F to 150°F (4.4°C to 65.6°C)
- Suggested Lubricant F442 Oil**
 Petroleum-based oil of 100 to 200 SUS viscosity at 100°F and an aniline point greater than 200°F
 (DO NOT USE OILS WITH ADDITIVES, COMPOUNDED OILS CONTAINING SOLVENTS, GRAPHITE, DETERGENTS, OR SYNTHETIC OILS.)
- Weight –**
 Polyurethane Bowl..... 1.09 lb. (0.5 kg) / Unit
 10.7 lb. (4.9 kg) / 8-unit Master Pack
 Zinc Bowl 1.53 lb. (0.7 kg) / Unit
 14.2 lb. (6.4 kg) / 8-unit Master Pack
 Zinc Bowl W/ Sight Gauge..... 1.71 lb. (0.8 kg) / Unit
 15.7 lb. (7.1 kg) / 8-unit Master Pack

Materials of Construction

- Body..... Aluminum**
- Bowls..... Polyurethane
 Metal (Zinc)**
- Drains Brass**
- Fill Fitting Brass**
- Seals Nitrile**

QUBE Features

Filters

Coalescing Filters

Regulators

Lubricators

Integral Filter Regulators

Combination Units

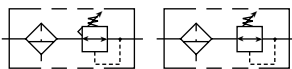
Accessories

Soft Start Valves

Mounting Brackets



B35 Integral Filter / Regulator

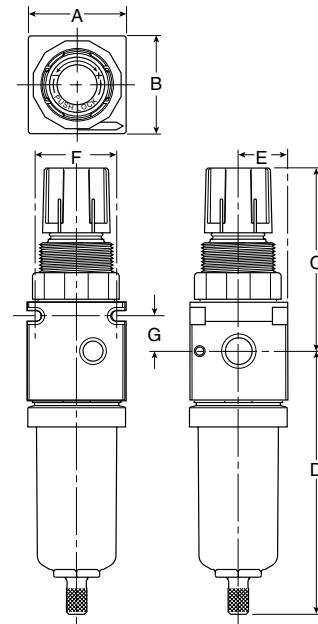


Features

- Compact Size Allows Greater Design Flexibility
- Nearly Double the Flow Capacity of Standard Miniature Filters; Reduces Costly Pressure Drop
- Connects to Other QUBE Units Using Just Screws and O-rings (Included)
- Integral Mounting Slots Eliminate Need for Mounting Brackets
- Piston Operated Regulator for High Flow and Low Pressure Drop
- Panel Mountable
- Excellent Water Removal Efficiency
- Unique Deflector Plate that Creates Swirling of the Air Stream Ensuring Maximum Water and Dirt Separation
- Large Filter Element Surface Guarantees Low Pressure Drop and Increased Element Life
- 20 Micron Filter Element Standard, 5 Micron Available
- Transparent Polyurethane Bowl Standard
- Metal Bowl with Wraparound Sight Gauge Optional
- Manual Drain as Standard, Optional Piston Drain
- Large Bowl Capacity
- High Flow: 1/8" & 1/4" - 35 SCFM[§]



Polyurethane Bowls and Sight Gauges Offer Improved Chemical Compatibility.



Port Size	NPT	
	Manual Twist Drain	Piston Drain
Polyurethane Bowl		
1/8"	B35-01AH	B35-01AHS
1/4"	B35-02AH	B35-02AHS
Zinc Bowl / Sight Gauge		
1/8"	B35-01WH	B35-01WHS
1/4"	B35-02WH	B35-02WHS

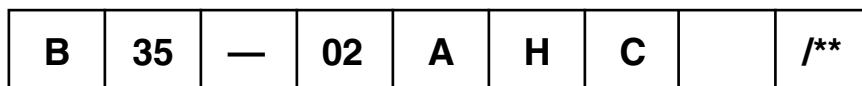
Bold Items are Most Popular.
For other models refer to ordering information below.

[§] SCFM = Standard Cubic Feet Per Minute at 100 PSIG Inlet, 75 PSIG No Flow Secondary Setting, and 20 PSIG Pressure Drop with 20 Micron Element.

B35 Integral Filter / Regulator Dimensions						
A	B	C	D	E	F	G
B35-A						
1.59 (40.6)	1.59 (40.6)	2.98 (75.7)	4.23 (107.5)	0.80 (20.3)	1.31 (33.3)	0.58 (14.6)
B35-D						
1.59 (40.6)	1.59 (40.6)	2.98 (75.7)	4.25 (107.9)	0.80 (20.3)	1.31 (33.3)	0.58 (14.6)
B35-W						
1.59 (40.6)	1.59 (40.6)	2.98 (75.7)	4.45 (113.2)	0.80 (20.3)	1.31 (33.3)	0.58 (14.6)

Inches (mm) NOTE: 1.25 Dia. (32mm) hole required for panel mounting.

Ordering Information



Port Threads
— NPT
G BSPP

Port Size
01 1/8"
02 1/4"

Bowl
A Transparent
D Metal without Sight Gauge
W Metal with Wraparound Sight Gauge

Element
G 5 Micron
H 20 Micron

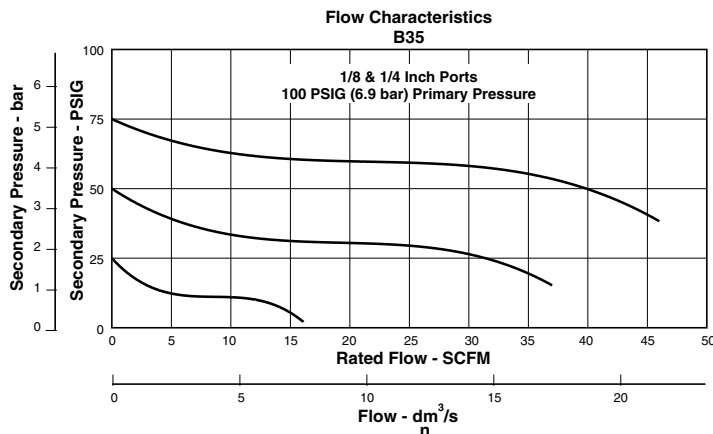
Reduced Pressure Range
A 0-25 PSIG
B 0-60 PSIG
C 0-125 PSIG

Options
G Gauge
K Non-relieving
P Panel Mount Nut
S Piston Drain
T Tamperproof Adjustment

Engineering Change Designator
Will be entered at factory.

BOLD ITEMS ARE MOST POPULAR.

Technical Information



⚠ WARNING
Product rupture can cause serious injury.
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.

⚠ CAUTION:
REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design. For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

B35 Integral Filter / Regulator Kits & Accessories

- Bowl Kits –**
Polyurethane (A)..... BKF35A
Zinc (D)..... BKF35D
Zinc (W) Wraparound Sight Gauge BKF35W
- Cage Kits –**
Push / Pull Adjusting Knob Kit (A Range)..... CKR35A
Push / Pull Adjusting Knob Kit (B & C Range)..... CKR35BC
- Control Knob** R35-0545P
- Drain Kits –**
Manual Twist Drain SA600Y7-1
Piston Drain (Maximum Pressure - 175 PSIG)..... PKF35
Semi-Automatic “Overnight” Drain SA602A7
(Drains automatically under zero pressure)
- Filter Element Kits –**
5 Micron (All) EK504VY
20 Micron (All) EK504Y
- Gauges –**
1-1/2" Dial Size, 1/8" Back Connection
0 to 60 PSIG (0 to 4 bar) K4515N18060
1-1/2" Dial Size, 1/8" Back Connection
0 to 160 PSIG (0 to 11 bar) K4515N18160
- Panel Mounting Bracket Kit (Bonnet Threads)** SA161X57
Face Mounting Bracket Kit (See Page 35) SAR35Y57
- Panel Mount Nut –**
Plastic..... R05X51-P
Aluminum..... R05X51-A
- Repair Kits –**
Deflector, Element Retainer (All) RKF30
Non-Relieving Piston, Valve Assembly RKR30K
Relieving Piston, Valve Assembly RKR30

Specifications

- Bowl Capacity** 1.5 Ounce
Gauge Ports (2) 1/8 Inch
Port Threads 1/8, 1/4 Inch
Pressure & Temperature Ratings –
Polyurethane Bowl..... 0 to 150 PSIG (0 to 10.2 bar)
40°F to 125°F (4.4°C to 52°C)
Zinc Bowl..... 0 to 300 PSIG (0 to 20.4 bar)
With Piston Drain..... 175 PSIG Max. Press. (11.9 bar)
40°F to 150°F (4.4°C to 65.6°C)
Zinc Bowl w/ Sight Gauge 0 to 250 PSIG (0 to 17.2 bar)
With Piston Drain..... 175 PSIG Max. Press. (11.9 bar)
40°F to 150°F (4.4°C to 65.6°C)
- Weight –**
Polyurethane Bowl..... 0.78 lb. (0.4 kg) / Unit
20.8 lb. (9.4 kg) / 24-unit Master Pack
Zinc Bowl..... 0.98 lb. (0.4 kg) / Unit
25.6 lb. (11.6 kg) / 24-unit Master Pack
Zinc Bowl W/ Sight Gauge..... 1.03 lb. (0.5 kg) / Unit
26.8 lb. (12.2 kg) / 24-unit Master Pack

Materials of Construction

- Body**.....Zinc
Bowls Polyurethane
Metal (Zinc)
Cage Acetal Plastic
Drains Brass
Filter Elements..... Polyethylene
Seals Nitrile

QUBE Features
Filters
Coalescing Filters
Regulators
Lubricators
Integral Filter Regulators
Combination Units
Accessories
Soft Start Valves
Mounting Brackets



B75 Integral Filter / Regulator

QUBE Features

Filters

Coalescing Filters

Regulators

Lubricators

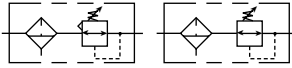
Integral Filter Regulators

Combination Units

Accessories

Soft Start Valves

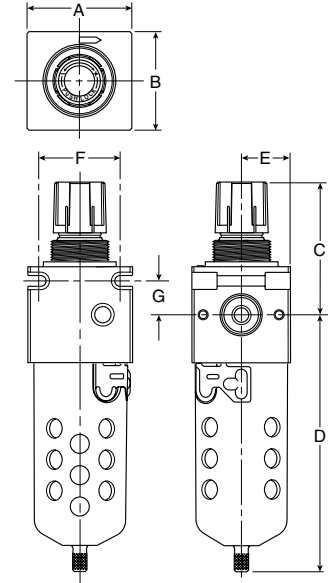
Mounting Brackets



Features

- Compact Size Allows Greater Design Flexibility
- Connects to Other QUBE Units Using Just Screws & O-rings (Included)
- Integral Mounting Slots Eliminate Need for Mounting Brackets
- Diaphragm Operated Design with Balanced Poppet Design for Quick And Accurate Regulation
- Panel Mountable
- For Applications Requiring Minimum Pressure Drop
- Excellent Water Removal Efficiency
- Unique Deflector Plate that Creates Swirling of the Air Stream Ensuring Maximum Water and Dirt Separation
- Large Filter Element Surface Guarantees Low Pressure Drop and Increased Element Life
- 40 Micron Filter Element Standard, 5 Micron Available
- Transparent Polyurethane Bowl with Bowl Guard as Standard
- Metal Bowl with Wraparound Sight Gauge Optional
- Manual Drain as Standard, Optional Auto Float Drain
- Large Bowl Capacity
- High Flow: 1/4" - 40 SCFM[§]
 3/8" - 60 SCFM[§]
 1/2" - 80 SCFM[§]

Polyurethane Bowls and Sight Gauges Offer Improved Chemical Compatibility.



Port Size	NPT	
	Manual Twist Drain	Automatic Float Drain
Polyurethane Bowl / Plastic Guard		
1/4"	B75-02BJC	B75-02BJCR
3/8"	B75-03BJC	B75-03BJCR
1/2"	B75-04BJC	B75-04BJCR
Zinc Bowl / Sight Gauge		
1/4"	B75-02WJC	B75-02WJCR
3/8"	B75-03WJC	B75-03WJCR
1/2"	B75-04WJC	B75-04WJCR

B75 Integral Filter / Regulator Dimensions						
A	B	C	D	E	F	G
B75-B, B75-D						
2.00 (50.8)	2.00 (50.8)	2.78 (70.6)	5.19 (131.8)	1.00 (25.4)	1.64 (41.7)	0.70 (17.9)
B75-W						
2.00 (50.8)	2.00 (50.8)	2.78 (70.6)	5.44 (138.2)	1.00 (25.4)	1.64 (41.7)	0.70 (17.9)

Inches
(mm)

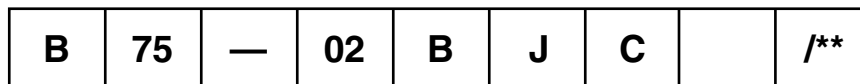
NOTE: 1.25 Dia. (32mm) hole required for panel mounting.

Bold Items are Most Popular.

For other models refer to ordering information below.

[§] SCFM = Standard Cubic Feet Per Minute at 100 PSIG Inlet, 75 PSIG No Flow Secondary Setting, and 20 PSIG Pressure Drop with 20 Micron Element.

Ordering Information



Port Threads
— NPT
G BSPP

Port Size
02 1/4"
03 3/8"
04 1/2"

Bowl
B Transparent with Plastic Bowl Guard
D Metal without Sight Gauge
W Metal with Wraparound Sight Gauge

Element
G 5 Micron
J 40 Micron

Reduced Pressure Range
A 0-25 PSIG
B 0-60 PSIG
C 0-125 PSIG

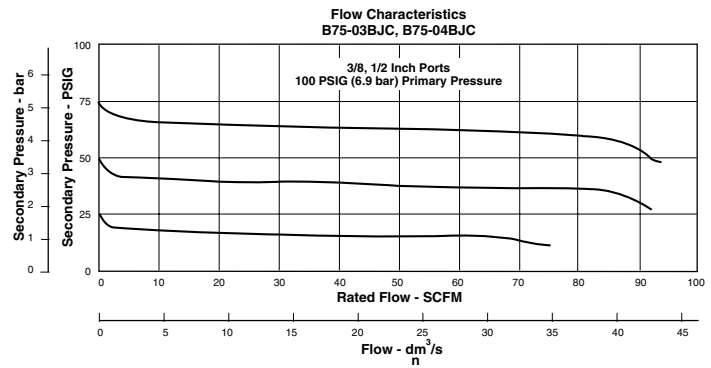
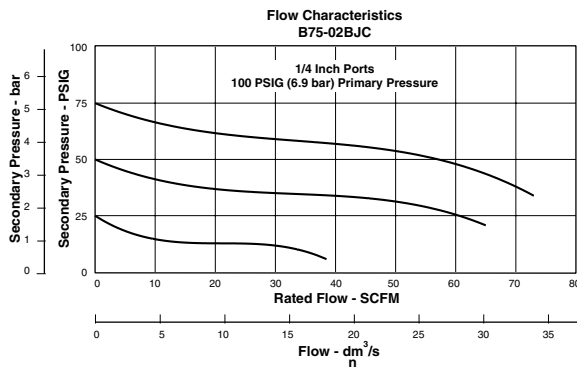
Options
G Gauge
K Non-relieving
P Panel Mount Nut
R Automatic Float Drain
T Tamperproof Adjustment

Engineering Change Designator
Will be entered at factory.

BOLD ITEMS ARE MOST POPULAR.



Technical Information



⚠ WARNING

**Product rupture can cause serious injury.
 Do not connect regulator to bottled gas.
 Do not exceed maximum primary pressure rating.**

⚠ CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design. For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

B75 Integral Filter / Regulator Kits & Accessories

- Bowl Kits –**
 Polyurethane (B)..... BKF55B
 Zinc (D)..... BKF55D
 Zinc (W) Wraparound Sight Gauge BKF55W
- Cage Kits –**
 Glass-Filled Acetal Plastic..... CKR75
 Tamperproof CKR75T
- Control Knob R35-0545P**
- Drain Kits –**
 Manual Twist Drain SA600Y7-1
 Internal Auto (Max. Pressure: 175 PSIG) (B & D)..... SA602MD
 Internal Auto (Max. Pressure: 175 PSIG) (W)..... SAF105MD
 Semi-Automatic “Overnight” Drain..... SA602A7
 (Drains automatically under zero pressure)
- Filter Element Kits –**
 5 Micron (All) EK55G
 40 Micron (All) EK55J
- Gauges –**
 1-1/2" Dial Size, 1/8" Back Connection
 0 to 60 PSIG (0 to 4 bar) K4515N18060
 1-1/2" Dial Size, 1/8" Back Connection
 0 to 160 PSIG (0 to 11 bar) K4515N18160
- Panel Mounting Bracket Kit SA161X57**
- Face Mounting Bracket Kit (See Page 37) SAR75Y57**
- Panel Mount Nut –**
 Plastic..... R05X51-P
 Aluminum..... R05X51-A
- Repair Kits –**
 Automatic Float Drain (Maximum Pressure - 175 PSIG).... RK602MD
 Deflector, Element Retainer (All) RKF55
 Non-Relieving Diaphragm, Valve Assembly RKR75K
 Relieving Diaphragm, Valve Assembly RKR75

Specifications

- Bowl Capacity 3.8 Ounce**
- Gauge Ports (2) 1/8 Inch**
- Port Threads 1/4, 3/8 & 1/2 Inch**
- Pressure & Temperature Ratings –**
 Polyurethane Bowl..... 0 to 150 PSIG (0 to 10.2 bar)
 40°F to 125°F (4.4°C to 52°C)
 Zinc Bowl..... 0 to 300 PSIG (0 to 20.4 bar)
 40°F to 150°F (4.4°C to 65.6°C)
 With Automatic Float Drain..... 175 PSIG Max. Press. (11.9 bar)
 40°F to 125°F (4.4°C to 52°C)
 Zinc Bowl w/ Sight Gauge 0 to 250 PSIG (0 to 17.2 bar)
 40°F to 150°F (4.4°C to 65.6°C)
 With Automatic Float Drain..... 175 PSIG Max. Press. (11.9 bar)
 40°F to 125°F (4.4°C to 52°C)
- Weight –**
 Polyurethane Bowl..... 1.50 lb. (0.7 kg) / Unit
 18 lb. (8.2 kg) / 12-Unit Master Pack
 Zinc Bowl..... 1.75 lb. (0.8 kg) / Unit
 21 lb. (9.5 kg) / 12-Unit Master Pack
 Zinc Bowl W/ Sight Gauge..... 1.85 lb. (0.8 kg) / Unit
 22 lb. (10 kg) / 12-Unit Master Pack

Materials of Construction

- Body..... Zinc**
- Bowls..... Polyurethane
 Metal (Zinc)**
- Cage Glass-Filled Acetal Plastic**
- Drains Brass**
- Filter Elements..... Polyethylene**
- Seals Nitrile**

QUBE Features

Filters

Coalescing Filters

Regulators

Lubricators

Integral Filter Regulators

Combination Units

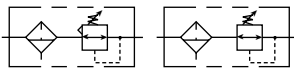
Accessories

Soft Start Valves

Mounting Brackets

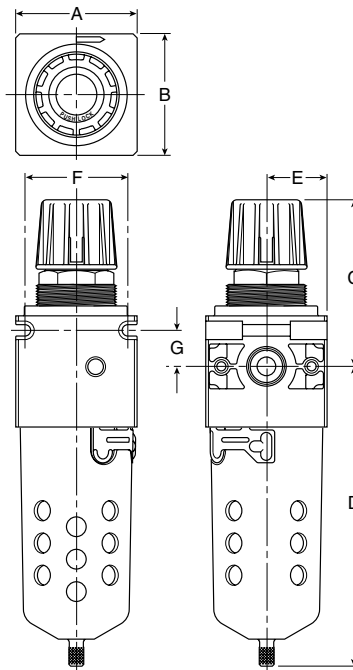


B105 Integral Filter / Regulator



Features

- Connects to Other QUBE Units Using Just Screws & O-rings (Included)
- Integral Mounting Slots Eliminate Need for Mounting Brackets
- Diaphragm Operated Design with Balanced Poppet Design for Quick And Accurate Regulation
- Panel Mountable
- For Applications Requiring Minimum Pressure Drop
- Excellent Water Removal Efficiency
- Unique Deflector Plate that Creates Swirling of the Air Stream Ensuring Maximum Water and Dirt Separation
- Large Filter Element Surface Guarantees Low Pressure Drop and Increased Element Life
- 40 Micron Filter Element Standard, 5 Micron Available
- Transparent Polyurethane Bowl with Bowl Guard as Standard
- Metal Bowl with Wraparound Sight Gauge Optional
- Manual Drain as Standard, Optional Auto Float Drain
- Large Bowl Capacity
- High Flow: 1/2" - 150 SCFM[§]
 3/4" - 150 SCFM[§]



Port Size	NPT	
	Manual Twist Drain	Automatic Float Drain
Polyurethane Bowl / Plastic Guard		
1/2"	B105-04BJC	B105-04BJCR
3/4"	B105-06BJC	B105-06BJCR
Zinc Bowl / Sight Gauge		
1/2"	B105-04WJC	B105-04WJCR
3/4"	B105-06WJC	B105-06WJCR

B105 Integral Filter / Regulator Dimensions								
A*	A†	B	C	D	E	F*	F†	G
B105-B, B105-D								
2.69 (68.2)	3.03 (77.0)	2.69 (68.2)	3.66 (92.8)	6.66 (169)	1.34 (34.1)	2.27 (57.5)	2.55 (64.8)	0.70 (17.9)
B105-W								
2.69 (68.2)	3.03 (77.0)	2.69 (68.2)	3.66 (92.8)	6.78 (172.2)	1.34 (34.1)	2.27 (57.5)	2.55 (64.8)	0.70 (17.9)

Bold Items are Most Popular.
For other models refer to ordering information below.
[§] SCFM = Standard Cubic Feet Per Minute at 100 PSIG Inlet, 75 PSIG No Flow Secondary Setting, and 20 PSIG Pressure Drop with 20 Micron Element.

Inches (mm) NOTE: 1.75 Dia. (44mm) hole required
 * 3/8 and 1/2 inch ports for panel mounting.
 † 3/4 inch ports

Polyurethane Bowls and Sight Gauges Offer Improved Chemical Compatibility.

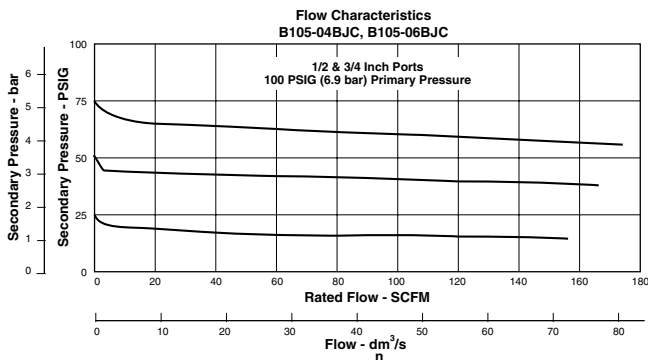
Ordering Information



Port Threads	Port Size	Bowl	Element	Reduced Pressure Range	Options	Engineering Change Designator
— NPT G BSPP	04 1/2" 06 3/4"	B Transparent with Plastic Bowl Guard D Metal without Sight Gauge W Metal with Wraparound Sight Gauge	G 5 Micron J 40 Micron	A 0-25 PSIG B 0-60 PSIG C 0-125 PSIG D 0-250 PSIG	G Gauge K Non-relieving P Panel Mount Nut R Automatic Float Drain	Will be entered at factory.

BOLD ITEMS ARE MOST POPULAR.

Technical Information



⚠ WARNING
Product rupture can cause serious injury.
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.

⚠ CAUTION:
REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design. For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

B105 Integral Filter / Regulator Kits & Accessories

- Bowl Kits –**
 Polyurethane (B)..... BKF105B
 Zinc (D)..... BKF105D
 Zinc (W) Wraparound Sight Gauge BKF105W
- Cage Kit –**
 Spring Cage Assembly with Knob CKR105
- Control Knob** R105-0542P
- Drain Kits –**
 Manual Twist Drain SA600Y7-1
 Internal Auto (Max. Pressure: 175 PSIG) (B & D)..... SA602MD
 Internal Auto (Max. Pressure: 175 PSIG) (W)..... SAF105MD
 Semi-Automatic “Overnight” Drain SA602A7
 (Drains automatically under zero pressure)
- Filter Element Kits –**
 5 Micron (All) EK100G
 40 Micron (All) EK100J
- Gauges –**
 2" Dial Size, 1/4" Back Connection
 0 to 60 PSIG (0 to 4 bar) K4520N14060
 2" Dial Size, 1/4" Back Connection
 0 to 160 PSIG (0 to 11 bar) K4520N14160
 2" Dial Size, 1/4" Back Connection
 0 to 300 PSIG (0 to 11 bar) K4520N14300
- Panel Mounting Bracket Kit (Bonnet Threads)** SAR10Y57
Face Mounting Bracket Kit (See Page 39) SAR105Y57
- Panel Mount Nut –**
 Plastic..... R10X51-P
 Aluminum..... R10X51-A
- Repair Kits –**
 Auto Float Drain (Maximum Pressure - 175 PSIG)..... RK602MD
 Deflector, Element Retainer (All) RKF100
 Non-Relieving Diaphragm, Valve Assembly RKR105K
 Relieving Diaphragm, Valve Assembly RKR105S

Specifications

- Bowl Capacity** 8.5 Ounce
Gauge Ports (2) 1/4 Inch
Port Threads 1/2 & 3/4 Inch
- Pressure & Temperature Ratings –**
 Polyurethane Bowl..... 0 to 150 PSIG (0 to 10.2 bar)
 40°F to 125°F (4.4°C to 52°C)
 Zinc Bowl..... 0 to 300 PSIG (0 to 20.4 bar)
 40°F to 150°F (4.4°C to 65.6°C)
 With Automatic Float Drain 175 PSIG Max. Press. (11.9 bar)
 40°F to 125°F (4.4°C to 52°C)
 Zinc Bowl w/ Sight Gauge 0 to 250 PSIG (0 to 17.2 bar)
 40°F to 150°F (4.4°C to 65.6°C)
 With Automatic Float Drain 175 PSIG Max. Press. (11.9 bar)
 40°F to 125°F (4.4°C to 52°C)
- Weight –**
 Polyurethane Bowl..... 2.21 lb. (1.0 kg) / Unit
 19.7 lb. (8.9 kg) / 8-unit Master Pack
 Zinc Bowl..... 2.66 lb. (1.2 kg) / Unit
 23.3 lb. (10.6 kg) / 8-unit Master Pack
 Zinc Bowl W/ Sight Gauge..... 2.86 lb. (1.3 kg) / Unit
 24.9 lb. (11.3 kg) / 8-unit Master Pack

Materials of Construction

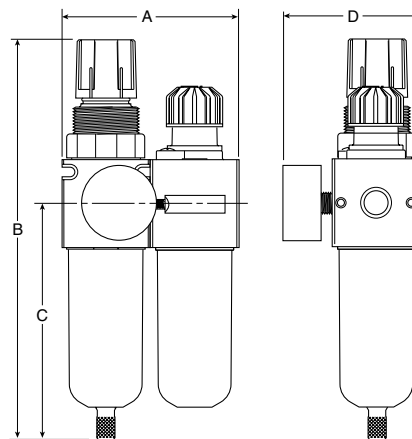
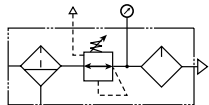
- Body**..... Aluminum
Bowls..... Polyurethane
 Metal (Zinc)
Cage Glass Filled Acetal
Drains Brass
Filter Elements..... Polyethylene
Knob Plastic
Seals Nitrile



QUBE Features
 Filters
 Coalescing Filters
 Regulators
 Lubricators
 Integral Filter Regulators
 Combination Units
 Accessories
 Soft Start Valves
 Mounting Brackets

C35 Combination Units

Two Unit Combo



- 20 Micron Filter Element
- Manual Twist Drain
- Relieving Regulator
- 125 PSI (8.6 bar)
- Gauge Included

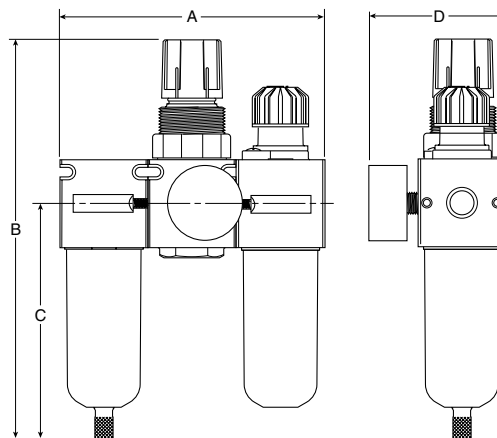
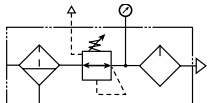
Port Size	Model Numbers
1/8"	C35-01BLAHCA
1/4"	C35-02BLAHCA

A	B	C	D
3.19 (80.9)	7.00 (177.8)	4.25 (107.9)	2.88 (73)

Inches
(mm)

For other models refer to ordering information on next page.

Three Unit Combo



- 20 Micron Filter Element
- Manual Twist Drain
- Relieving Regulator
- 125 PSI (8.6 bar)
- Gauge Included

Port Size	Model Numbers
1/8"	C35-01FRLAHCA
1/4"	C35-02FRLAHCA

A	B	C	D
4.78 (121.4)	7.00 (177.8)	4.25 (107.9)	2.88 (73)

Inches
(mm)

For other models refer to ordering information on next page.

QUBE
Features

Filters

Coalescing
Filters

Regulators

Lubricators

Integral Filter
Regulators

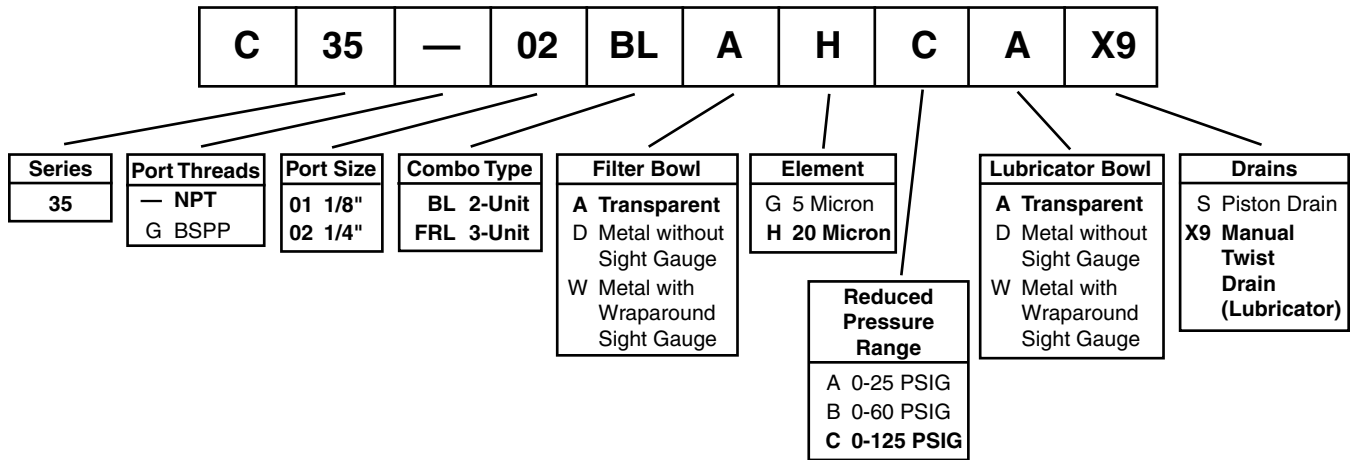
Combination
Units

Accessories

Soft Start
Valves

Mounting
Brackets

Ordering Information



BOLD ITEMS ARE MOST POPULAR.

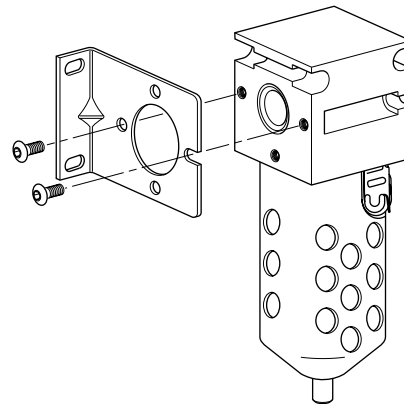
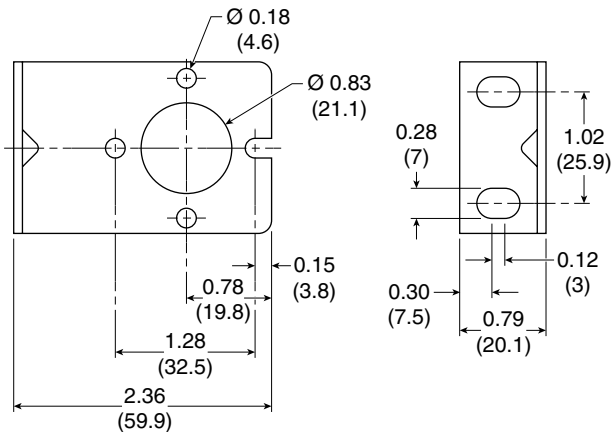
⚠ WARNING
<p>Product rupture can cause serious injury. Do not connect regulator to bottled gas. Do not exceed maximum primary pressure rating.</p>

⚠ CAUTION:
<p>REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design. For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.</p>

**C35 Combination Units
 Kits & Accessories**

Mounting Bracket Kit (2 Required)SAR35Y57
 See individual component sections for other kits and accessories.

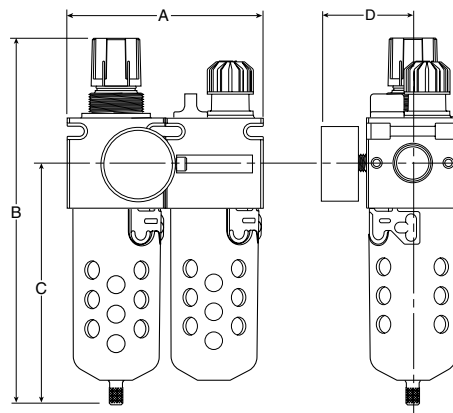
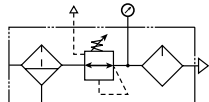
Bracket Installation



QUBE Features
Filters
Coalescing Filters
Regulators
Lubricators
Integral Filter Regulators
Combination Units
Accessories
Soft Start Valves
Mounting Brackets

C75 Combination Units

Two Unit Combo



- 40 Micron Filter Element
- Manual Twist Drain
- Relieving Regulator
- 125 PSI (8.6 bar)
- Gauge Included

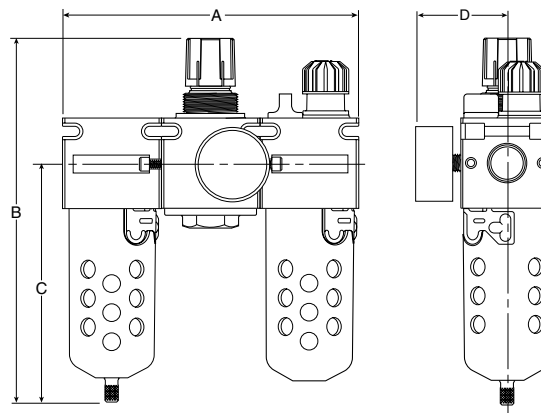
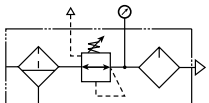
Port Size	Model Numbers
1/4"	C75-02BLBJCB
3/8"	C75-03BLBJCB
1/2"	C75-04BLBJCB

A	B	C	D
C75-BL - B & D Bowls			
4.19 106.4	7.97 (202.4)	5.19 (131.8)	3.44 (81.7)
C75-BL - W Bowls			
4.19 106.4	8.23 (208.9)	5.44 (138.2)	3.44 (87.3)

Inches
(mm)

For other models refer to ordering information on next page.

Three Unit Combo



- 40 Micron Filter Element
- Manual Twist Drain
- Relieving Regulator
- 125 PSI (8.6 bar)
- Gauge Included

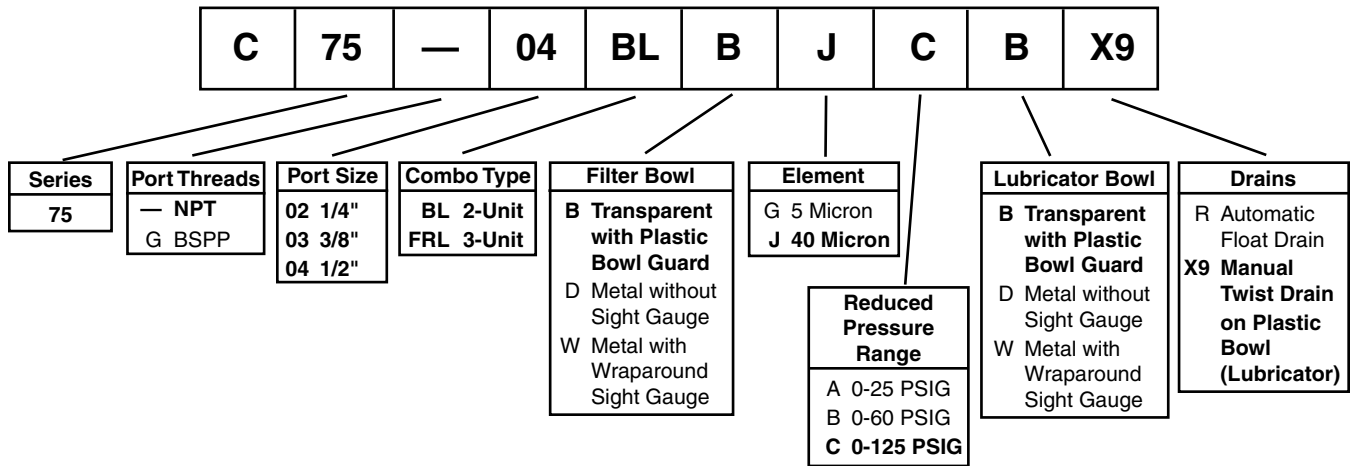
Port Size	Model Numbers
1/4"	C75-02FRLBJCB
3/8"	C75-03FRLBJCB
1/2"	C75-04FRLBJCB

A	B	C	D
C75-BL - B & D Bowls			
6.57 (166.9)	7.97 (202.4)	5.19 (131.8)	3.44 (81.7)
C75-BL - W Bowls			
6.57 (166.9)	8.06 (204.7)	5.31 (134.9)	3.44 (87.3)

Inches
(mm)

For other models refer to ordering information on next page.

Ordering Information



BOLD ITEMS ARE MOST POPULAR.

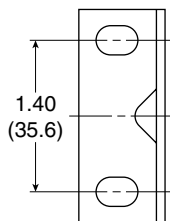
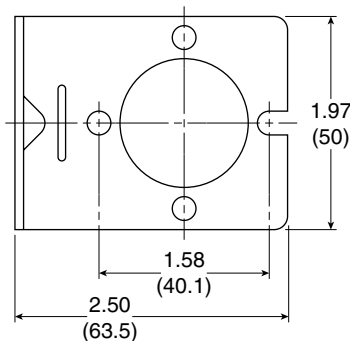
⚠ WARNING
Product rupture can cause serious injury. Do not connect regulator to bottled gas. Do not exceed maximum primary pressure rating.

⚠ CAUTION:
REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design. For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

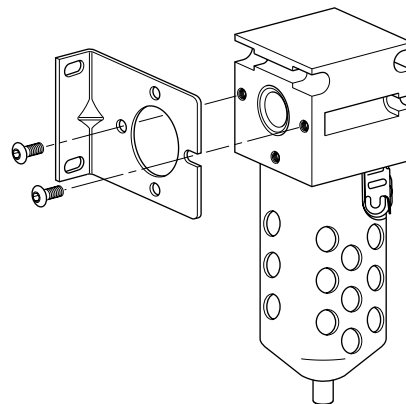
Polyurethane Bowls and Sight Gauges Offer Improved Chemical Compatibility.

**C75 Combination Units
 Kits & Accessories**

Mounting Bracket Kit (2 Required)SAR75Y57
 See individual component sections for other kits and accessories.



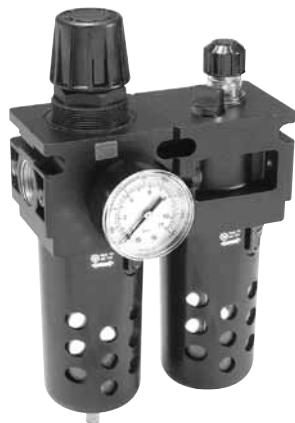
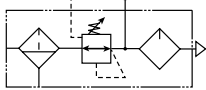
Bracket Installation



	QUBE Features
	Filters
	Coalescing Filters
	Regulators
	Lubricators
	Integral Filter Regulators
	Combination Units
	Accessories
	Soft Start Valves
	Mounting Brackets

C105 Combination Units

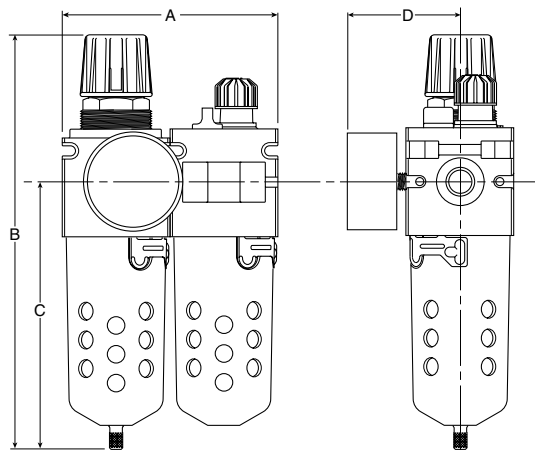
Two Unit Combo



- 40 Micron Filter Element
- Manual Twist Drain
- Relieving Regulator
- 125 PSI (8.6 bar)
- Gauge Included

Port Size	Model Numbers
1/2"	C105-04BLBJCB
3/4"	C105-06BLBJCB

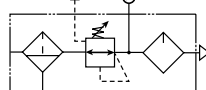
For other models refer to ordering information on next page.



A*	A†	B	C	D
C105-BL - B & D Bowls				
5.38 (136.6)	6.06 (153.9)	10.32 (262.1)	6.66 (169.2)	4.20 (106.7)
C105-BL - W Bowls				
5.38 (136.6)	6.06 (153.9)	10.44 (265.2)	6.78 (172.2)	4.20 (106.7)

Inches (mm)
 * 1/2 inch ports
 † 3/4 inch ports

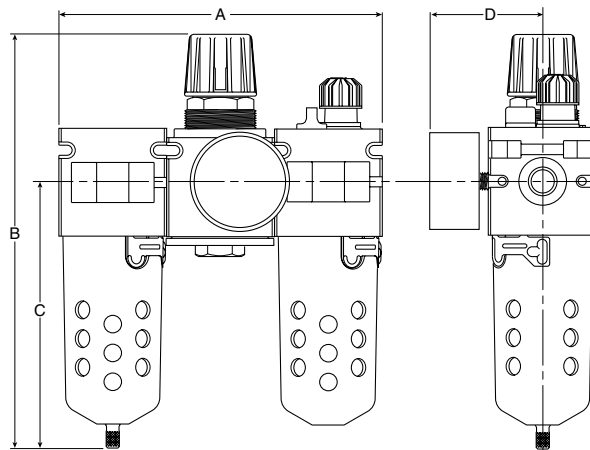
Three Unit Combo



- 40 Micron Filter Element
- Manual Twist Drain
- Relieving Regulator
- 125 PSI (8.6 bar)
- Gauge Included

Port Size	Model Numbers
1/2"	C105-04FRLBJCB
3/4"	C105-06FRLBJCB

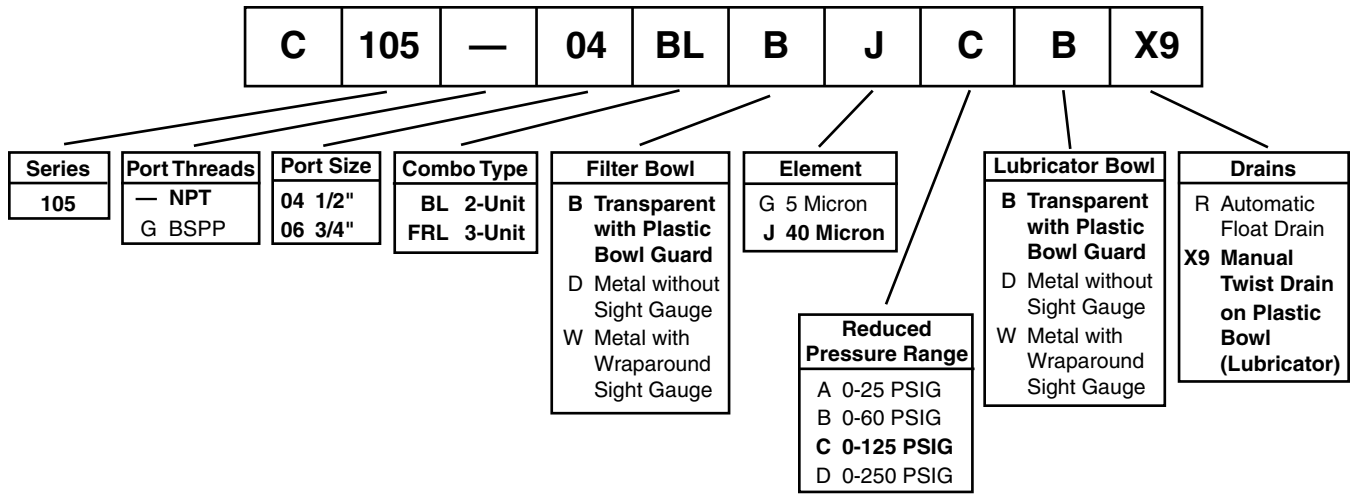
For other models refer to ordering information on next page.



A*	A†	B	C	D
C105-BL - B & D Bowls				
8.07 (204.9)	9.09 (230.9)	10.31 (261.8)	6.56 (167)	4.20 (106.7)
C105-BL - W Bowls				
8.07 (204.9)	9.09 (230.9)	10.41 (264.4)	6.66 (169.2)	4.20 (106.7)

Inches (mm)
 * 1/2 inch ports
 † 3/4 inch ports

Ordering Information



BOLD ITEMS ARE MOST POPULAR.

⚠ WARNING
Product rupture can cause serious injury. Do not connect regulator to bottled gas. Do not exceed maximum primary pressure rating.

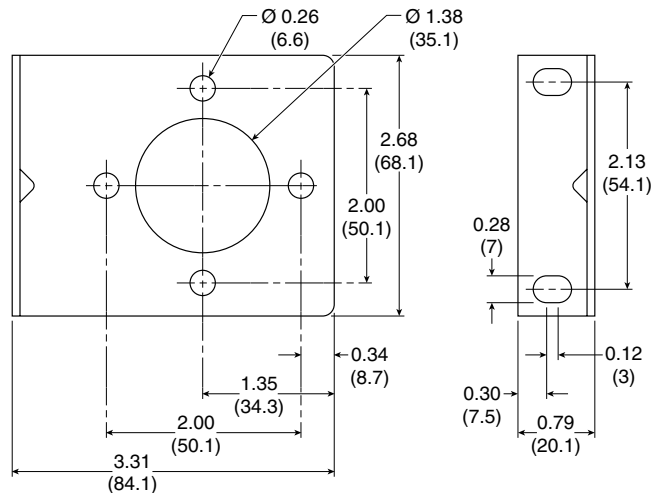
⚠ CAUTION:
REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design. For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

Polyurethane Bowls and Sight Gauges Offer Improved Chemical Compatibility.

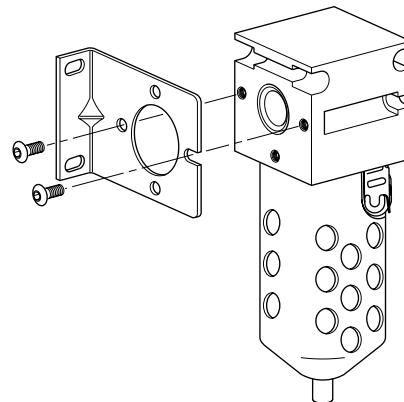
**C105 Combination Units
 Kits & Accessories**

Mounting Bracket Kit (2 Required)SAR105Y57

See individual component sections for other kits and accessories.



Bracket Installation



QUBE Features
Filters
Coalescing Filters
Regulators
Lubricators
Integral Filter Regulators
Combination Units
Accessories
Soft Start Valves
Mounting Brackets

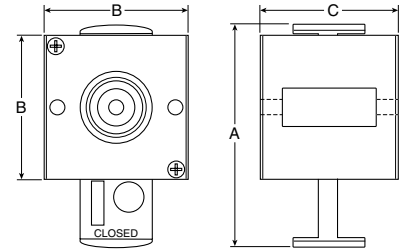
SV Shut-off Valve

Features

- Threaded Ports Allows Use In-line or with Other QUBE Modular FRL Components
- Accepts Customer Supplied Standard Single Padlock or Safety Lock for Multiple Lockout
- Conforms to OSHA Standard 29 CFR Part 10
- 3-Port, 2-Position Shutoff Valve Relieves Downstream Pressure when Closed
- SV Valves Can be Locked in the Closed Position Only
- Maximum Pressure: 300 PSIG



SV75 Shown



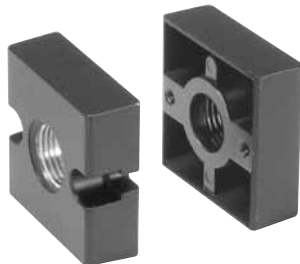
Port Size	SV35 Part Number	SV75 Part Number	SV105 Part Number
1/8	SV35-01	—	—
1/4	SV35-02	SV75-02	—
3/8	—	SV75-03	—
1/2	—	SV75-04	SV105-04
3/4	—	—	SV105-06

Kit Includes: (2) Machine Screws & (2) O-rings for mounting.

Series	A	B	C	Weight
SV35	2.50 (63.5)	1.63 (41.3)	1.56 (39.7)	.78 lb .35 kg
SV75	3.06 (77.8)	2.00 (50.8)	1.75 (44.5)	.95 lb .43 kg
SV105	4.19 (106.3)	2.69 (68.2)	2.13 (53.9)	1.7 lb .77 kg

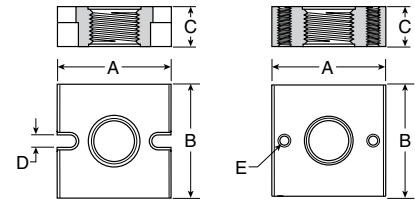
Inches
(mm)

End Plates



Features

- Design Allows Removal or Installation of Basic Components without Direct Pipe Connections to the Components
- Each Series has End Plates One Port Size Larger than the Basic Units



Type 731

Type 732

Part Number	Type 0731	Type 0732	Contains		
			Screws	O-Rings	Application
PK3500-**	0	1	0	0	Shut-Off
PK3510-**	1	1	2	1	Filter or Lubricator
PK3520-**	1	—	2	1	R, B, FRL, BL with Shut-off
PK3530-**	2	—	4	2	R, B, FRL, BL
PK7500-**	0	1	0	0	Shut-Off
PK7510-**	1	1	2	1	Filter or Lubricator
PK7520-**	1	—	2	1	R, B, FRL, BL with Shut-off
PK7530-**	2	—	4	2	R, B, FRL, BL
PK1050-**	0	1	0	0	Shut-Off
PK1051-**	1	1	2	1	Filter or Lubricator
PK1052-**	1	—	2	1	R, B, FRL, BL with Shut-off
PK1053-**	2	—	4	2	R, B, FRL, BL

** 01 (1/8"); 02 (1/4"); 03 (3/8"); 04 (1/2"); 06 (3/4")

Series	Type	A	B	C	D	E
35	0731	1.59 (40.5)	1.59 (40.5)	0.90 (22.9)	0.17 (4.4)	—
35	0732	1.59 (40.5)	1.59 (40.5)	0.90 (22.9)	—	#8-32UNC-2B
75	0731	2.00 (50.8)	2.00 (50.8)	0.70 (17.9)	0.22 (5.6)	—
75	0732	2.00 (50.8)	2.00 (50.8)	0.70 (17.9)	—	#10-32UNF-2B
105	0731	2.69 (68.3)	2.69 (68.3)	1.00 (25.49)	0.27 (6.8)	—
105	0732	2.00 (50.8)	2.00 (50.8)	1.00 (25.49)	—	1/4-20UNC-2B

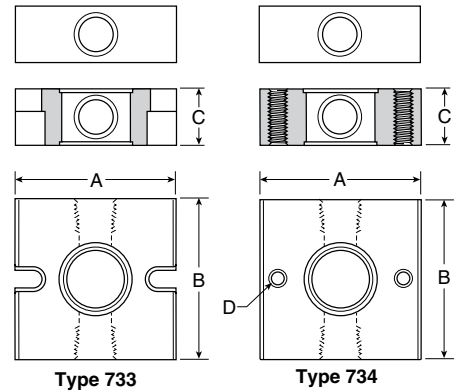
Inches
(mm)

105 Series Porting Blocks



Features

- Designed to Fit within Any 105 Series Combination, Providing Two 3/8" Branch Ports



Part Number	Type 0733	Type 0734	Screws	Contains	
				O-Rings	Application
PK1054	1	—	2 (Long)	1	Between Filter & Reg.; Reg. & Lub.; End Plate & Filter; Lub. & End Plate
PK1055	—	1	4 (Short)	2	Between Filter & Coalescer; Filter & Lubricator

Type	A	B	C	D
0733	2.69 (68.4)	2.69 (68.3)	1.00 (25.4)	N/A
0734	2.69 (68.4)	2.69 (68.3)	1.00 (25.4)	1/4-20UNC-2B

Inches
(mm)

35 & 75 Series Branch Blocks



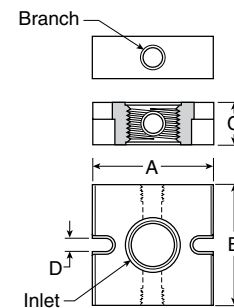
BB35



BB75

Features

- Blocks Function as End Plates with 1/8" NPT Branch Lines Available Top and Bottom
- Also Used in Conjunction with Direction Plates and Regulators to Provide Outlets for Gauges



Part Number	Inlet Port	Branch Port
BB35-1-1	1/8"	1/8"
BB35-2-1	1/4"	1/8"
BB75-2-1	1/4"	1/8"
BB75-3-1	3/8"	1/8"
BB75-3-2	3/8"	1/4"

Part Number	A	B	C
BB35-1-1	1.61 (40.9)	1.61 (40.9)	0.90 (22.9)
BB35-2-1	1.61 (40.9)	1.61 (40.9)	0.90 (22.9)
BB75-2-1	2.00 (50.8)	2.00 (50.8)	0.94 (23.9)
BB75-3-1	2.00 (50.8)	2.00 (50.8)	0.94 (23.9)
BB75-3-2	2.00 (50.8)	2.00 (50.8)	0.94 (23.9)

Inches
(mm)

QUBE Features
Filters
Coalescing Filters
Regulators
Lubricators
Integral Filter Regulators
Combination Units
Accessories
Soft Start Valves
Mounting Brackets

QUBE Features
Filters
Coalescing Filters
Regulators
Lubricators
Integral Filter Regulators
Combination Units
Accessories
Soft Start Valves
Mounting Brackets

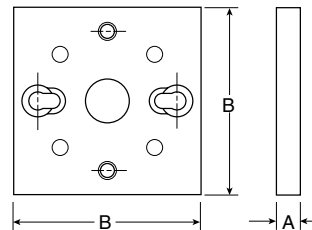
Direction Plates



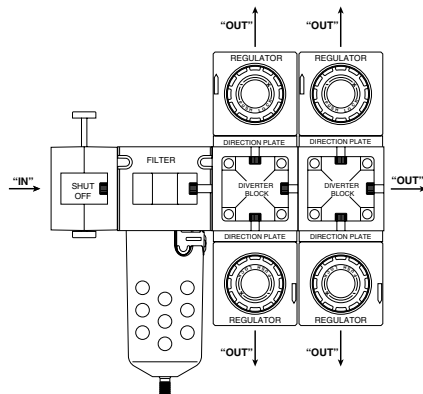
DP75

Features

- Designed to Allow 90° Rotation of QUBE Components Allowing Manifolding of Units and Resulting in Great Space and Cost Savings
- Also Used to Mount Units from Different Series to One Another



Application



Part Number	A	B
DP35	0.20 (5.1)	1.59 (40.5)
DP75	0.30 (7.6)	2.00 (50.8)
DP105	0.34 (8.6)	2.69 (68.3)

Inches
(mm)

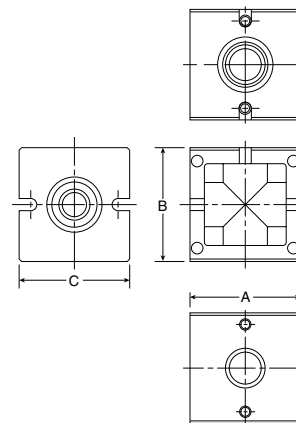
Diverter Blocks



DK7510-3-2

Features

- Designed to Mount in a Variety of Configurations with the Capability of having Branch Line Components Mounted Directly, Giving Multiple Air Lines with Minimal Pressure Drop
- Use Untapped Blocks within Components, Either at the Beginning or End of System

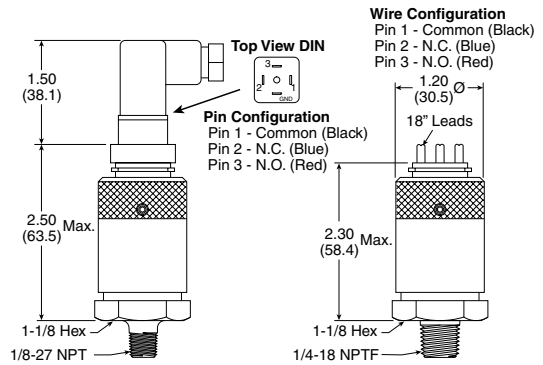
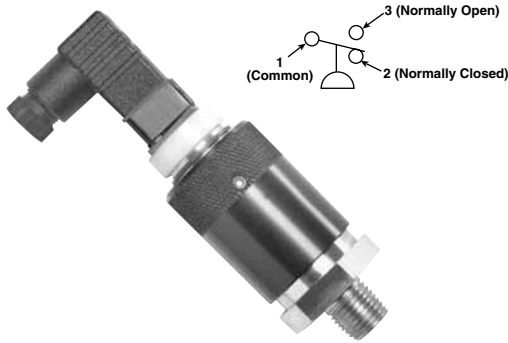


Part Number	Application
DK3510-3-2	Tapped 3/8" In & Out, Two 1/4" Branches
DK7510	In & Out Not Tapped, Two 1/4" Branches
DK7510-3-2	Tapped 3/8" In & Out, Two 1/4" Branches
DK7510-3-3	Tapped 3/8" In & Out, Two 3/8" Branches
DK1051-6-4	Tapped 3/4" In & Out, Two 1/2" Branches

Part Number	A	B	C	D	E
DK3510-3-2	1.93 (49)	1.69 (42.9)	1.69 (42.9)	3/8" NPT	1/4" NPT
DK7510	2.00 (50.8)	2.00 (50.8)	2.00 (50.8)	N/A	1/4" NPT
DK7510-3-2	2.00 (50.8)	2.00 (50.8)	2.00 (50.8)	3/8" NPT	1/4" NPT
DK7510-3-3	2.00 (50.8)	2.00 (50.8)	2.00 (50.8)	3/8" NPT	3/8" NPT
DK1051-6-4	2.75 (69.9)	2.69 (68.3)	2.69 (68.3)	3/4" NPT	1/2" NPT

Inches (mm)

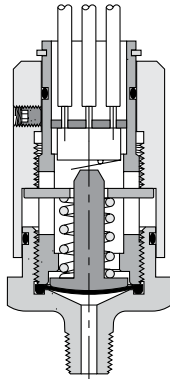
Pressure Switch – PPS1



- Long Life Elastomer Diaphragm
- High Quality Snap Action Switch
- Field Adjustable
- Compact Design
- Easily Customized
- Quick Delivery
- NEMA 4, 13

Operation

The pressure switch monitors the air pressure in your pneumatic system. When the pressure in your system either drops below or exceeds the set point pressure, an electrical output is given.



Definitions and Terminology

Repeatability — Accuracy is the maximum allowable set point deviation of a single pressure or temperature switch under one given set of environmental and operational conditions.
Single Pole Double Throw (SPDT) Switching element — A SPDT switching element has one normally open, one normally closed and one common terminal. Three terminals mean that the switch can be wired with the circuit either normally open (NO), or normally closed (NC), or both.
Dead Band — The dead band, sometimes referred to as “differential” or “hysteresis”, is the change in pressure between actuation and deactuation set points.

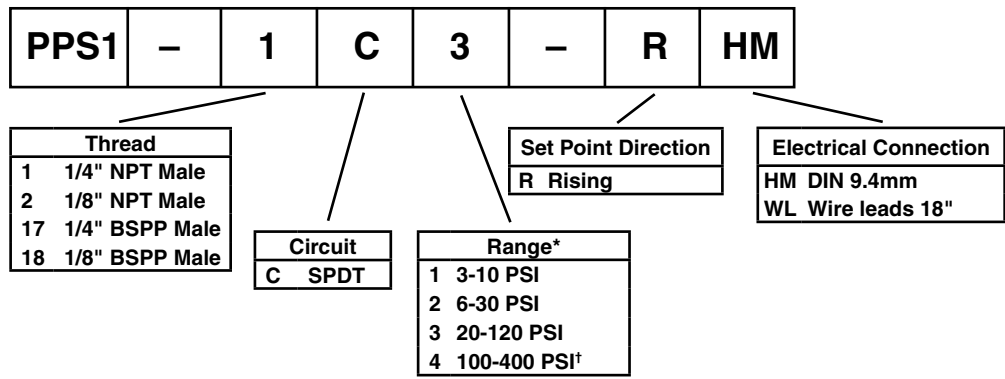
Specifications

Set Point Tolerance	±1 PSI or 5% (.07 bar)
Temperature Range	-40F° to 220F° (-40C° to 105C°)
Max. Operating Pressure (Ranges 1, 2, 3)	250 PSI (17.2 bar)
Max. Operating Pressure (Range 4)	2000 PSI (137.9 bar)
Deadband	10 - 20% of set pressure
Current Rating	3A @ 125 VAC, 2A @ 30 VDC (Resistive)
Circuit Form	SPDT Standard
Cycle Life	1 Million

Material Specifications

Adjustment Knob	Anodized Aluminum
Body	Brass
Diaphragm	Nitrile

Ordering Information



* Factory setting for calibration purposes
 Range 1 = 6 PSI
 Range 2 = 18 PSI
 Range 3 = 70 PSI
 Range 4 = 250 PSI
 Note: Switch is field adjustable.

† Only available in 1/4" NPT

QUBE Features
Filters
Coalescing Filters
Regulators
Lubricators
Integral Filter Regulators
Combination Units
Accessories
Soft Start Valves
Mounting Brackets

SC75 & SC105 Series Solenoid Soft Start / Quick Dump Valves

QUBE Features

Filters

Coalescing Filters

Regulators

Lubricators

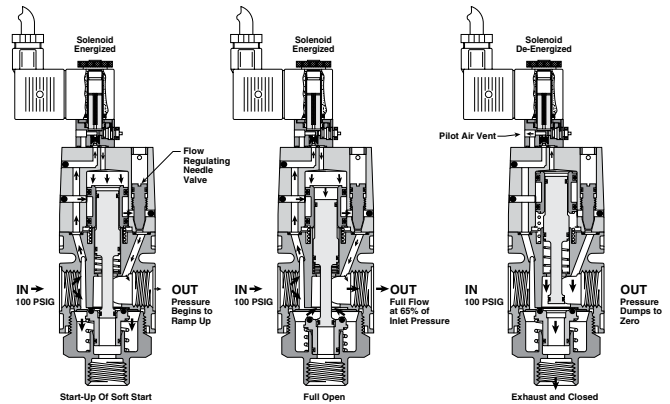
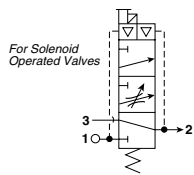
Integral Filter Regulators

Combination Units

Accessories

Soft Start Valves

Mounting Brackets



Features

- Connects to Other QUBE Units Using Just Screws and O-Rings (Included)
- Integral Mounting Slots Eliminate Need for Mounting Brackets
- Combines Soft Start and Quick Dump Valve in the Same Body
- Unit is Installed Downstream of Lubricator (If Used)
- Large Flow Capacities up to 4.2 Cv
- Inline or Modular Mounting
- Soft Start Flow Easily Adjusted

Operation

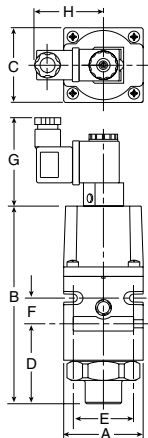
When the valve is installed into the pneumatic system, and pilot operator receives no signal, the air is blocked at Port 1. When a pilot signal is received at pilot operator, the valve shifts, closing the connection between Ports 2 and 3. At the same time, air flow begins between Ports 1 and 2 at a slow rate controlled by the needle valve, located on the top of the valve. When the downstream pressure reaches approximately 60% of the supply pressure, the main valve spool opens allowing full flow through the valve into the system. If pilot signal or system pressure is lost, the valve returns to its initial state, venting the downstream pressure through Port 3.

CAUTION
Do not use synthetic, reconstituted, or oils with an alcohol content or detergent additive.

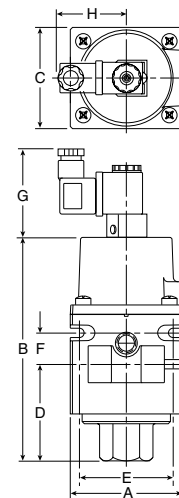
CAUTION
Do not restrict the inlet of valves having an internal pilot supply. Pressure supply piping must be the same size as the inlet port or larger to insure that the pilot valve receives sufficient pressure supply during high flow conditions.

Ordering Information / Dimensions

75 Series		
Model Number	Port (NPT)	Flow* Cv
24VDC / 48VAC		
SC75-03M	3/8"	4.1
SC75-04M	1/2"	4.2
12VDC / 24VAC		
SC75-03Z	3/8"	4.1
SC75-04Z	1/2"	4.2
120VAC		
SC75-03K	3/8"	4.1
SC75-04K	1/2"	4.2



105 Series		
Model Number	Port (NPT)	Flow* Cv
24VDC / 48VAC		
SC105-04M	1/2"	5.3
SC105-06M	3/4"	5.7
12VDC / 24VAC		
SC105-04Z	1/2"	5.3
SC105-06Z	3/4"	5.7
120VAC		
SC105-04K	1/2"	5.3
SC105-06K	3/4"	5.7



*Exhaust Flow

*Exhaust Flow

Model	A	B	C	D	E	F	G	H
SC75	2.19 (56)	5.43 (138)	2.06 (52)	1.50 (38)	1.66 (42)	.72 (18)	2.56 (65)	1.91 (48)

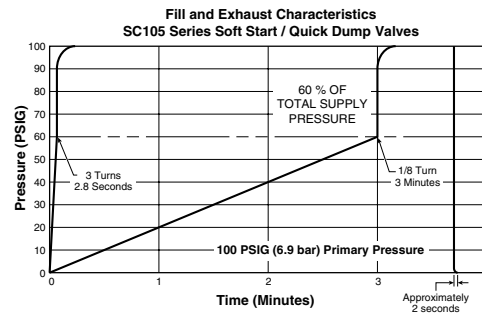
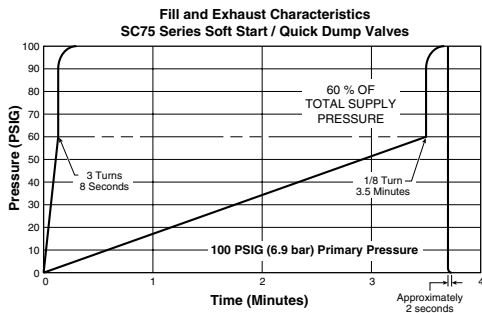
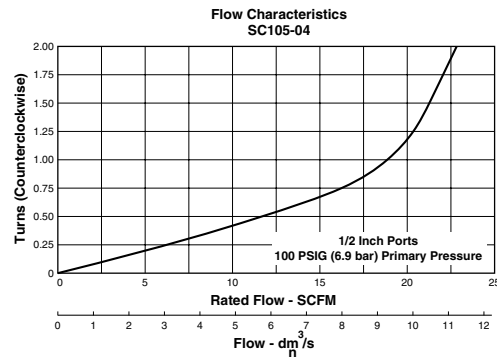
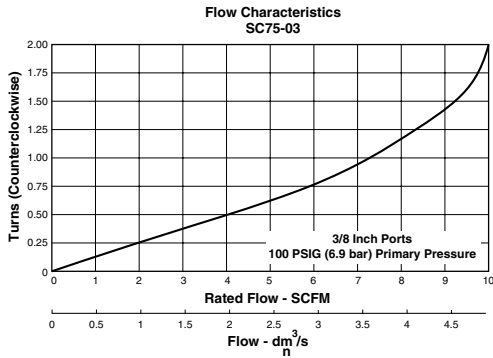
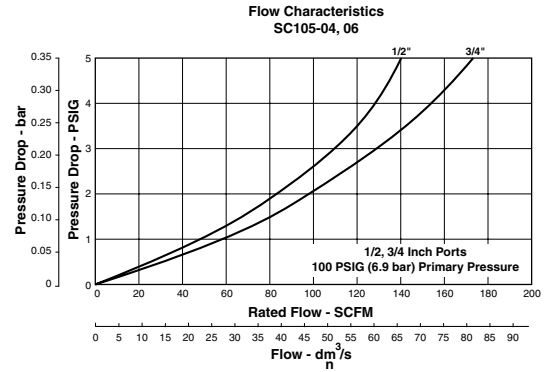
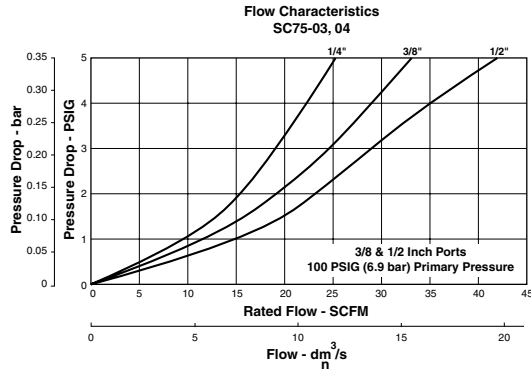
Inches (mm)

Model	A	B	C	D	E	F	G	H
SC105	3.03 (77)	6.03 (153)	2.75 (70)	1.84 (47)	2.53 (64)	.84 (21)	2.56 (65)	1.90 (48)

Inches (mm)



Technical Information



QUBE SC75 & SC105 Series Kits & Accessories

- Coil Kits –**
 24VDC / 48VAC Coil.....2EV103
 12VDC / 24VAC Coil.....2EV102
 120 VAC Coil2EV105

- Seal Repair Kits –**
 SC75 Series RKSC75
 SC105 Series RKSC105

- Exhaust Mufflers**
 SC75 (1/2" Exhaust) M60-04
 SC105 (3/4" Exhaust) M60-06

Specifications

- Exhaust Ports –**
 SC75..... 1/2 Inch NPT
 SC105..... 3/4 Inch NPT

- Gauge Ports –**
 SC75 (2) 1/8 Inch NPT
 SC105 (2) 1/4 Inch NPT

Inlet & Outlet Port Threads –

- SC75.....3/8 Inch NPTF
 SC105.....1/2 Inch NPTF
 (BSPP and BSPT port threads are available through the use of Modular Port Block Kits)

Pressure & Temperature Ratings –

- Solenoid.....60 to 145 PSIG (4.1 to 10.0 bar)
 32°F to 140°F (0°C to 60°C)

Weight –

- SC75..... 3.25 lb. (1.47 kg)
 SC105..... 5.5 lb. (2.49 kg)

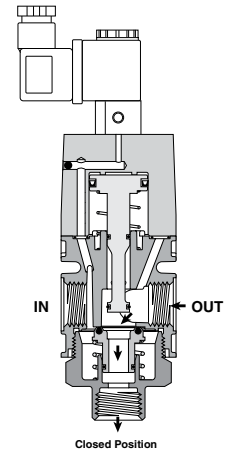
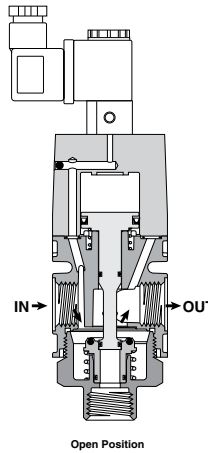
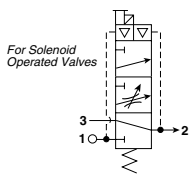
Materials of Construction

- Body** Zinc
Bottom Plug Brass
Seals Nitrile
Springs Stainless Steel
Internal Components Brass / Aluminum
Top Cover Aluminum



QUBE Features
Filters
Coalescing Filters
Regulators
Lubricators
Integral Filter Regulators
Combination Units
Accessories
Soft Start Valves
Mounting Brackets

S75 & S105 Solenoid Quick Dump Valves



Features

- Connects to Other QUBE Units Using Just Screws & O-Rings (Included)
- Integral Mounting Slots Eliminate Need for Mounting Brackets
- Shuts Off Incoming Pressure While Rapidly Exhausting Downstream Pressure
- Unit is Installed Downstream of Lubricator (If Used)
- Large Exhaust Flow Capacities Up to 5.7 Cv
- Solenoid Operation
- Non-locking Manual Override
- Inline or Modular Mounting

Operation

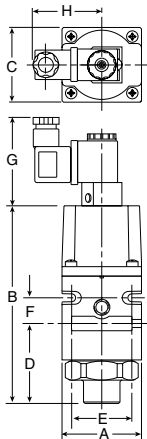
The solenoid quick dump valves are high flow, normally closed, 3-Port, 2-Position directional control valves. Upon energizing the solenoid, inlet air is applied to the top of the piston. The piston pushes against the spring and opens the main valve providing full flow air to the downstream. When the solenoid is de-energized, the main valve closes allowing downstream air to exhaust rapidly through the bottom plug. The bottom plug is tapped so that exhaust may be piped away or fitted with a muffler.

CAUTION
 Do not use synthetic, reconstituted, or oils with an alcohol content or detergent additive.

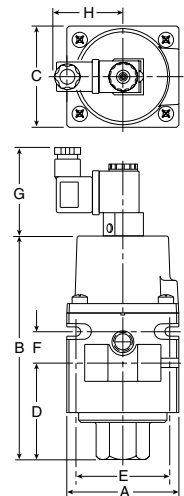
CAUTION
 Do not restrict the inlet of valves having an internal pilot supply. Pressure supply piping must be the same size as the inlet port or larger to insure that the pilot valve receives sufficient pressure supply during high flow conditions.

Ordering Information / Dimensions

75 Series		
Model Number	Port (NPT)	Flow* Cv
24VDC / 48VAC		
S75-03M	3/8"	4.1
S75-04M	1/2"	4.2
12VDC / 24VAC		
S75-03Z	3/8"	4.1
S75-04Z	1/2"	4.2
120VAC		
S75-03K	3/8"	4.1
S75-04K	1/2"	4.2



105 Series		
Model Number	Port (NPT)	Flow* Cv
24VDC / 48VAC		
S105-04M	1/2"	5.3
S105-06M	3/4"	5.7
12VDC / 24VAC		
S105-04Z	1/2"	5.3
S105-06Z	3/4"	5.7
120VAC		
S105-04K	1/2"	5.3
S105-06K	3/4"	5.7



*Exhaust Flow

*Exhaust Flow

Model	A	B	C	D	E	F	G	H
S75	2.19 (56)	5.43 (138)	2.06 (52)	1.50 (38)	1.66 (42)	.72 (18)	2.56 (65)	1.91 (48)

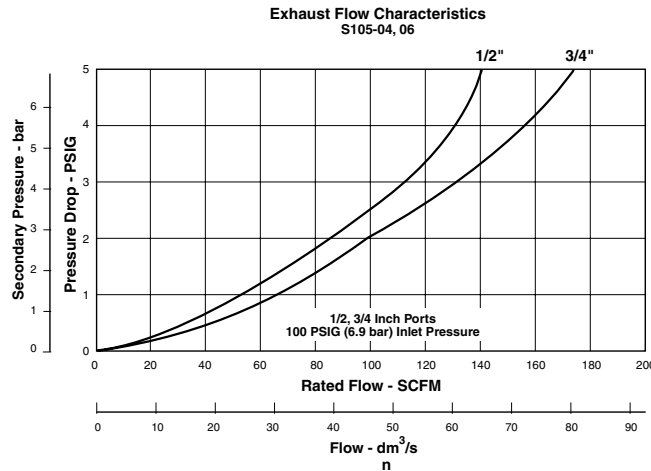
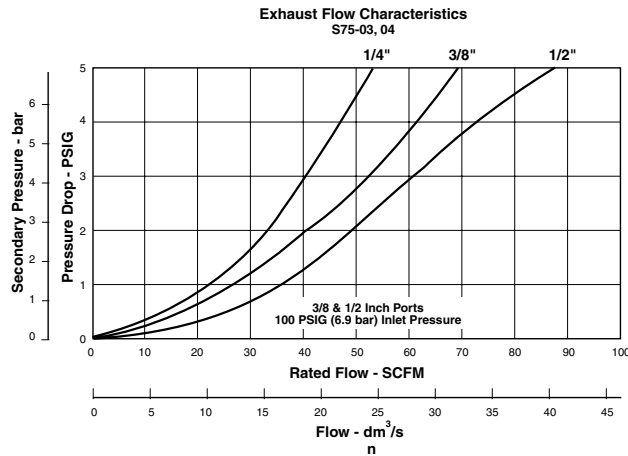
Inches (mm)

Model	A	B	C	D	E	F	G	H
S105	3.03 (77)	6.03 (153)	2.75 (70)	1.84 (47)	2.53 (64)	.84 (21)	2.56 (65)	1.90 (48)

Inches (mm)



Technical Information



**QUBE S75 & S105 Series Kits
 & Accessories**

- Coil Kits –**
- 24VDC / 48VAC Coil.....2EV103
 - 12VDC / 24VAC Coil.....2EV102
 - 120 VAC Coil2EV105

- Seal Repair Kits –**
- S75 SeriesRKS75
 - S105 SeriesRKS105

- Exhaust Mufflers**
- S75 (1/2" Exhaust)M60-04
 - S105 (3/4" Exhaust)M60-06

Specifications

- Exhaust Ports**
- S751/2 Inch
 - S1053/4 Inch

- Gauge Ports (Downstream pressure)**
- S75 (2).....1/8 Inch
 - S105 (2).....1/4 Inch

- Maximum Pressure** 145 PSIG (9.9 bar)
- Minimum Operating Pressure** 30 PSIG (2.1 bar)
- Temperature Ratings**40°F to 120°F (4°C to 49°C)
- Weight –**

 - S753.25 lb. (1.47 kg)
 - S1055.50 lb. (2.49 kg)

Materials of Construction

- Body**.....Zinc
- Bottom Plug** Brass
- Internal Components** Brass
- Seals** Nitrile
- Springs** Stainless Steel
- Top Cover** Aluminum

QUBE Features

Filters

Coalescing Filters

Regulators

Lubricators

Integral Filter Regulators

Combination Units

Accessories

Soft Start Valves

Mounting Brackets



SSA75 & SSA105 Auto Pilot Soft Start Valve

QUBE Features

Filters

Coalescing Filters

Regulators

Lubricators

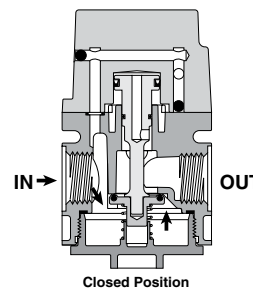
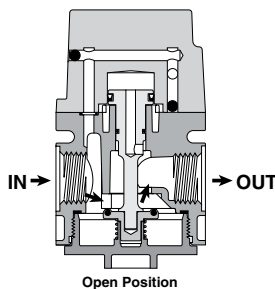
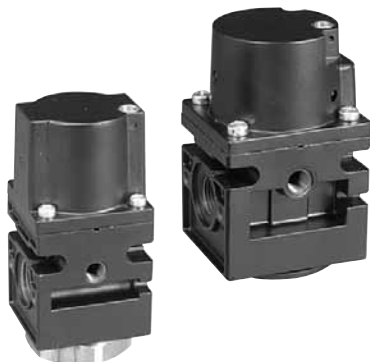
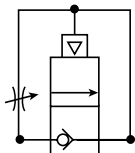
Integral Filter Regulators

Combination Units

Accessories

Soft Start Valves

Mounting Brackets



Features

- Connects to Other QUBE Units Using Just Screws & O-Rings (Included)
- Integral Mounting Slots Eliminate Need for Mounting Brackets
- Smooth Start-up of Pneumatic System
- Unit is Installed Downstream of Lubricator (If Used)
- Air Pilot Operation
- Large Flow Capacities Up to 5.5 Cv
- Inline or Modular Mounting

Operation

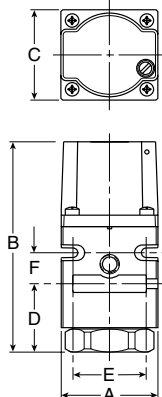
When pressure is supplied to the inlet port, gradual filling of the downstream system occurs through the adjustable needle valve. The piston opens the main valve when the downstream side of the valve reaches approximately 60% of the supply pressure. The ramp up time to reach the switch over pressure is adjustable via the needle valve in the cover. The Auto pilot soft start valve is not intended to be used as a shut off valve and should always be placed after a shut off valve.

CAUTION
Do not use synthetic, reconstituted, or oils with an alcohol content or detergent additive.

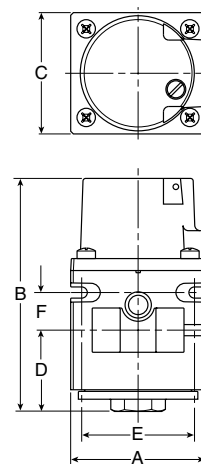
CAUTION
Do not restrict the inlet of valves having an internal pilot supply. Pressure supply piping must be the same size as the inlet port or larger to insure that the pilot valve receives sufficient pressure supply during high flow conditions.

Ordering Information / Dimensions

SSA75 Series		
Model Number	Port (NPT)	Flow* Cv
SSA75-03	3/8"	3.4
SSA75-04	1/2"	3.8



SSA105 Series		
Model Number	Port (NPT)	Flow* Cv
SSA105-04	1/2"	6.8
SSA105-06	3/4"	8.1



Model	A	B	C	D	E	F
SSA75	2.19 (56)	4.72 (120)	2.06 (52)	1.50 (38)	1.66 (42)	.72 (18)

Inches (mm)

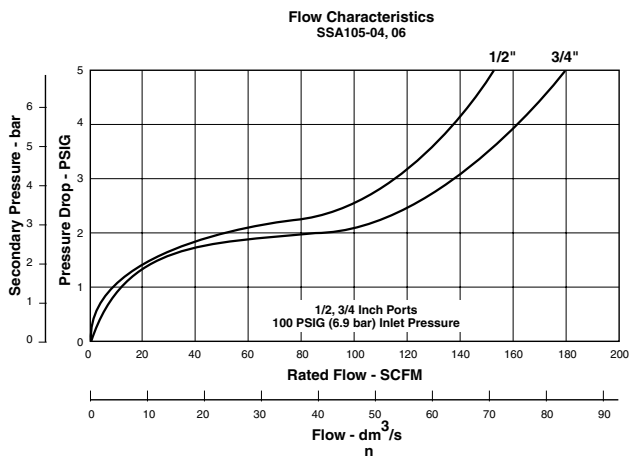
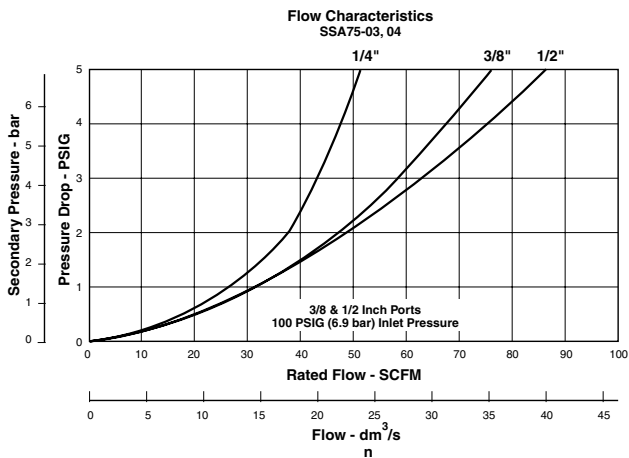
Model	A	B	C	D	E	F
SSA105	3.03 (77)	5.25 (133)	2.75 (70)	1.50 (38)	2.53 (64)	.84 (21)

Inches (mm)

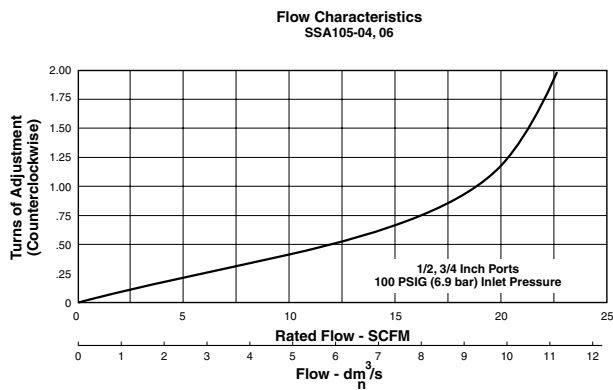
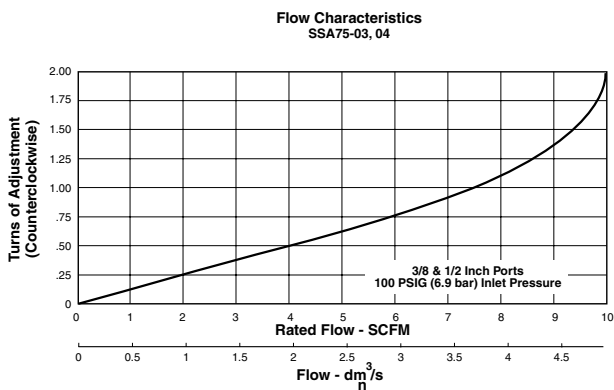


Technical Information

Flow Characteristics



Soft Start Adjustment



QUBE SSA75 & SSA105 Series Kits & Accessories

- Repair Kits –**
 SSA75 SeriesRKSS75
 SSA105 SeriesRKSS105

Specifications

- Gauge Ports (Downstream Pressure)**
 SSA75 (2) 1/8 Inch
 SSA105 (2) 1/4 Inch
- Maximum Pressure** 300 PSIG (20.7 bar)
Minimum Operating Pressure 30 PSIG (2.1 bar)
Temperature Ratings 40°F to 120°F (4°C to 49°C)
Opens to Full Flow 60% Supply Pressure
- Weight –**
 SSA75 2.75 lb. (1.25 kg)
 SSA105 4.50 lb. (2.04 kg)

Materials of Construction

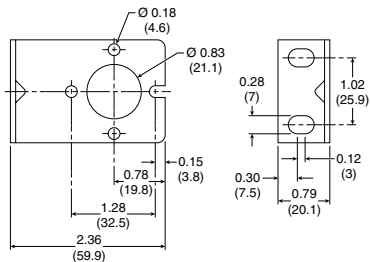
- Body** Zinc
Bottom Plug –
 SSA75 Brass
 SSA105 Zinc
Internal Components Brass
Seals Nitrile
Springs Stainless Steel
Top Cover Aluminum

QUBE Features
Filters
Coalescing Filters
Regulators
Lubricators
Integral Filter Regulators
Combination Units
Accessories
Soft Start Valves
Mounting Brackets

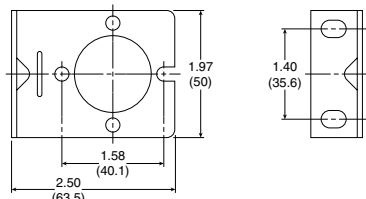


QUBE Features
Filters
Coalescing Filters
Regulators
Lubricators
Integral Filter Regulators
Combination Units
Accessories
Soft Start Valves
Mounting Brackets

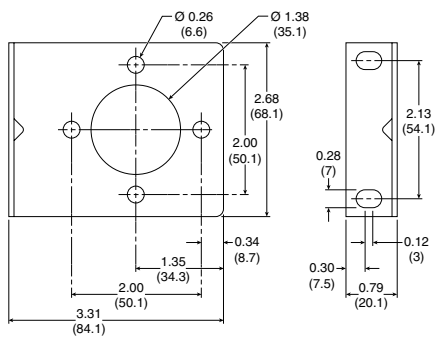
QUBE Series End / Wall Mount Brackets



35 Series Bracket - SAR35Y57



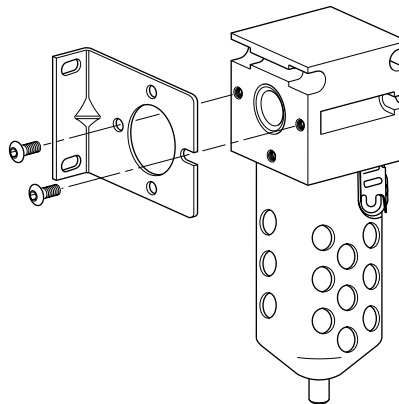
75 Series Bracket - SAR75Y57



105 Series Bracket - SAR105Y57

QUBE FRL components have integral mounting slots that usually eliminate the need for mounting brackets. However, some applications may require the use of mounting brackets:

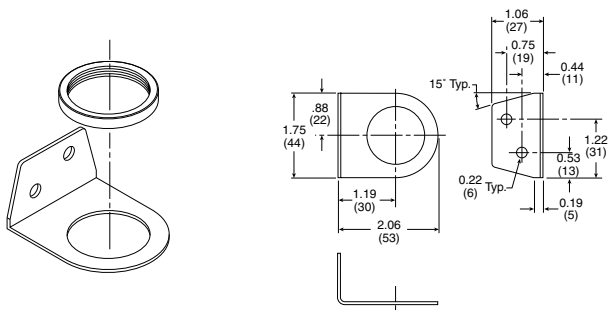
- Assemblies incorporating components from multiple series.
- Applications where the FRL needs to be spaced away from the machine.



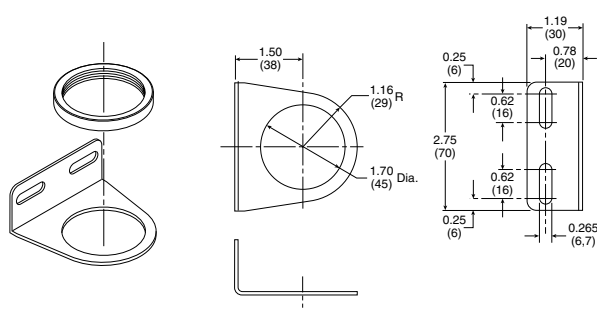
Bracket Installation

QUBE Series Panel Mount Brackets

These brackets are designed to mount regulators and integral filter / regulators using panel mount threads on spring cage.



35 & 75 Series QUBE



105 Series QUBE

Part Number: **SA161X57**
 (Comes complete with R05X51-P Plastic Panel Nut)

Part Number: **SAR10Y57**
 (Comes complete with R10X51-P Plastic Panel Nut)

Safety Guide For Selecting And Using Pneumatic Division Products And Related Accessories

WARNING:

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF PNEUMATIC DIVISION PRODUCTS, ASSEMBLIES OR RELATED ITEMS (“PRODUCTS”) CAN CAUSE DEATH, PERSONAL INJURY, AND PROPERTY DAMAGE. POSSIBLE CONSEQUENCES OF FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THESE PRODUCTS INCLUDE BUT ARE NOT LIMITED TO:

- Unintended or mistimed cycling or motion of machine members or failure to cycle
- Work pieces or component parts being thrown off at high speeds.
- Failure of a device to function properly for example, failure to clamp or unclamp an associated item or device.
- Explosion
- Suddenly moving or falling objects.
- Release of toxic or otherwise injurious liquids or gasses.

Before selecting or using any of these Products, it is important that you read and follow the instructions below.

1. GENERAL INSTRUCTIONS

- 1.1. Scope:** This safety guide is designed to cover general guidelines on the installation, use, and maintenance of Pneumatic Division Valves, FRLs (Filters, Pressure Regulators, and Lubricators), Vacuum products and related accessory components.
- 1.2. Fail-Safe:** Valves, FRLs, Vacuum products and their related components can and do fail without warning for many reasons. Design all systems and equipment in a fail-safe mode, so that failure of associated valves, FRLs or Vacuum products will not endanger persons or property.
- 1.3. Relevant International Standards:** For a good guide to the application of a broad spectrum of pneumatic fluid power devices see: ISO 4414:1998, Pneumatic Fluid Power – General Rules Relating to Systems. See www.iso.org for ordering information.
- 1.4. Distribution:** Provide a copy of this safety guide to each person that is responsible for selection, installation, or use of Valves, FRLs or Vacuum products. Do not select, or use Parker valves, FRLs or vacuum products without thoroughly reading and understanding this safety guide as well as the specific Parker publications for the products considered or selected.
- 1.5. User Responsibility:** Due to the wide variety of operating conditions and applications for valves, FRLs, and vacuum products Parker and its distributors do not represent or warrant that any particular valve, FRL or vacuum product is suitable for any specific end use system. This safety guide does not analyze all technical parameters that must be considered in selecting a product. The user, through its own analysis and testing, is solely responsible for:
 - Making the final selection of the appropriate valve, FRL, Vacuum component, or accessory.
 - Assuring that all user's performance, endurance, maintenance, safety, and warning requirements are met and that the application presents no health or safety hazards.
 - Complying with all existing warning labels and / or providing all appropriate health and safety warnings on the equipment on which the valves, FRLs or Vacuum products are used; and,
 - Assuring compliance with all applicable government and industry standards.
- 1.6. Safety Devices:** Safety devices should not be removed, or defeated.
- 1.7. Warning Labels:** Warning labels should not be removed, painted over or otherwise obscured.
- 1.8. Additional Questions:** Call the appropriate Parker technical service department if you have any questions or require any additional information. See the Parker publication for the product being considered or used, or call 1-800-CPARKER, or go to www.parker.com, for telephone numbers of the appropriate technical service department.

2. PRODUCT SELECTION INSTRUCTIONS

- 2.1. Flow Rate:** The flow rate requirements of a system are frequently the primary consideration when designing any pneumatic system. System components need to be able to provide adequate flow and pressure for the desired application.
- 2.2. Pressure Rating:** Never exceed the rated pressure of a product. Consult product labeling, Pneumatic Division catalogs or the instruction sheets supplied for maximum pressure ratings.
- 2.3. Temperature Rating:** Never exceed the temperature rating of a product. Excessive heat can shorten the life expectancy of a product and result in complete product failure.
- 2.4. Environment:** Many environmental conditions can affect the integrity and suitability of a product for a given application. Pneumatic Division products are designed for use in general purpose industrial applications. If these products are to be used in unusual circumstances such as direct sunlight and/or corrosive or caustic environments, such use can shorten the useful life and lead to premature failure of a product.
- 2.5. Lubrication and Compressor Carryover:** Some modern synthetic oils can and will attack nitrile seals. If there is any possibility of synthetic oils or greases migrating into the pneumatic components check for compatibility with the seal materials used. Consult the factory or product literature for materials of construction.
- 2.6. Polycarbonate Bowls and Sight Glasses:** To avoid potential polycarbonate bowl failures:
 - Do not locate polycarbonate bowls or sight glasses in areas where they could be subject to direct sunlight, impact blow, or temperatures outside of the rated range.
 - Do not expose or clean polycarbonate bowls with detergents, chlorinated hydro-carbons, ketones, esters or certain alcohols.
 - Do not use polycarbonate bowls or sight glasses in air systems where compressors are lubricated with fire resistant fluids such as phosphate ester and di-ester lubricants.

Safety Guide

2.7. Chemical Compatibility: For more information on plastic component chemical compatibility see Pneumatic Division technical bulletins Tec-3, Tec-4, and Tec-5

- 2.8. Product Rupture:** Product rupture can cause death, serious personal injury, and property damage.
- Do not connect pressure regulators or other Pneumatic Division products to bottled gas cylinders.
 - Do not exceed the maximum primary pressure rating of any pressure regulator or any system component.
 - Consult product labeling or product literature for pressure rating limitations.

3. PRODUCT ASSEMBLY AND INSTALLATION INSTRUCTIONS

- 3.1. Component Inspection:** Prior to assembly or installation a careful examination of the valves, FRLs or vacuum products must be performed. All components must be checked for correct style, size, and catalog number. DO NOT use any component that displays any signs of nonconformance.
- 3.2. Installation Instructions:** Parker published Installation Instructions must be followed for installation of Parker valves, FRLs and vacuum components. These instructions are provided with every Parker valve or FRL sold, or by calling 1-800-CPARKER, or at www.parker.com.
- 3.3. Air Supply:** The air supply or control medium supplied to Valves, FRLs and Vacuum components must be moisture-free if ambient temperature can drop below freezing

4. VALVE AND FRL MAINTENANCE AND REPLACEMENT INSTRUCTIONS

- 4.1. Maintenance:** Even with proper selection and installation, valve, FRL and vacuum products service life may be significantly reduced without a continuing maintenance program. The severity of the application, risk potential from a component failure, and experience with any known failures in the application or in similar applications should determine the frequency of inspections and the servicing or replacement of Pneumatic Division products so that products are replaced before any failure occurs. A maintenance program must be established and followed by the user and, at minimum, must include instructions 4.2 through 4.10.
- 4.2. Installation and Service Instructions:** Before attempting to service or replace any worn or damaged parts consult the appropriate Service Bulletin for the valve or FRL in question for the appropriate practices to service the unit in question. These Service and Installation Instructions are provided with every Parker valve and FRL sold, or are available by calling 1-800-CPARKER, or by accessing the Parker web site at www.parker.com.
- 4.3. Lockout / Tagout Procedures:** Be sure to follow all required lockout and tagout procedures when servicing equipment. For more information see: OSHA Standard – 29 CFR, Part 1910.147, Appendix A, The Control of Hazardous Energy – (Lockout / Tagout)
- 4.4. Visual Inspection:** Any of the following conditions requires immediate system shut down and replacement of worn or damaged components:
- Air leakage: Look and listen to see if there are any signs of visual damage to any of the components in the system. Leakage is an indication of worn or damaged components.
 - Damaged or degraded components: Look to see if there are any visible signs of wear or component degradation.
 - Kinked, crushed, or damaged hoses. Kinked hoses can result in restricted air flow and lead to unpredictable system behavior.
 - Any observed improper system or component function: Immediately shut down the system and correct malfunction.
 - Excessive dirt build-up: Dirt and clutter can mask potentially hazardous situations.

Caution: Leak detection solutions should be rinsed off after use.

- 4.5. Routine Maintenance Issues:**
- Remove excessive dirt, grime and clutter from work areas.
 - Make sure all required guards and shields are in place.
- 4.6. Functional Test:** Before initiating automatic operation, operate the system manually to make sure all required functions operate properly and safely.
- 4.7. Service or Replacement Intervals:** It is the user's responsibility to establish appropriate service intervals. Valves, FRLs and vacuum products contain components that age, harden, wear, and otherwise deteriorate over time. Environmental conditions can significantly accelerate this process. Valves, FRLs and vacuum components need to be serviced or replaced on routine intervals. Service intervals need to be established based on:
- Previous performance experiences.
 - Government and / or industrial standards.
 - When failures could result in unacceptable down time, equipment damage or personal injury risk.
- 4.8. Servicing or Replacing of any Worn or Damaged Parts:** To avoid unpredictable system behavior that can cause death, personal injury and property damage:
- Follow all government, state and local safety and servicing practices prior to service including but not limited to all OSHA Lockout Tagout procedures (OSHA Standard – 29 CFR, Part 1910.147, Appendix A, The Control of Hazardous Energy – Lockout / Tagout).
 - Disconnect electrical supply (when necessary) before installation, servicing, or conversion.
 - Disconnect air supply and depressurize all air lines connected to system and Pneumatic Division products before installation, service, or conversion.
 - Installation, servicing, and / or conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.
 - After installation, servicing, or conversions air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or if the product does not operate properly, do not put product or system into use.
 - Warnings and specifications on the product should not be covered or painted over. If masking is not possible, contact your local representative for replacement labels.
- 4.9. Putting Serviced System Back into Operation:** Follow the guidelines above and all relevant Installation and Maintenance Instructions supplied with the valve FRL or vacuum component to insure proper function of the system.

Offer of Sale

The items described in this document and other documents and descriptions provided by Parker Hannifin Corporation, its subsidiaries and its authorized distributors ("Seller") are hereby offered for sale at prices to be established by Seller. This offer and its acceptance by any customer ("Buyer") shall be governed by all of the following Terms and Conditions. Buyer's order for any item described in its document, when communicated to Seller verbally, or in writing, shall constitute acceptance of this offer. All goods or work described will be referred to as "Products".

1. **Terms and Conditions.** Seller's willingness to offer Products, or accept an order for Products, to or from Buyer is subject to these Terms and Conditions or any newer version of the terms and conditions found on-line at www.parker.com/saleterms/. Seller objects to any contrary or additional terms or conditions of Buyer's order or any other document issued by Buyer.
2. **Price Adjustments; Payments.** Prices stated on Seller's quote or other documentation offered by Seller are valid for 30 days, and do not include any sales, use, or other taxes unless specifically stated. Unless otherwise specified by Seller, all prices are F.C.A. Seller's facility (INCOTERMS 2010). Payment is subject to credit approval and is due 30 days from the date of invoice or such other term as required by Seller's Credit Department, after which Buyer shall pay interest on any unpaid invoices at the rate of 1.5% per month or the maximum allowable rate under applicable law.
3. **Delivery Dates; Title and Risk; Shipment.** All delivery dates are approximate and Seller shall not be responsible for any damages resulting from any delay. Regardless of the manner of shipment, title to any products and risk of loss or damage shall pass to Buyer upon placement of the products with the shipment carrier at Seller's facility. Unless otherwise stated, Seller may exercise its judgment in choosing the carrier and means of delivery. No deferral of shipment at Buyers' request beyond the respective dates indicated will be made except on terms that will indemnify, defend and hold Seller harmless against all loss and additional expense. Buyer shall be responsible for any additional shipping charges incurred by Seller due to Buyer's acts or omissions.
4. **Warranty.** Seller warrants that the Products sold hereunder shall be free from defects in material or workmanship for a period of twelve months from the date of delivery to Buyer or 2,000 hours of normal use, whichever occurs first. The prices charged for Seller's products are based upon the exclusive limited warranty stated above, and upon the following disclaimer: **DISCLAIMER OF WARRANTY: THIS WARRANTY COMPRISES THE SOLE AND ENTIRE WARRANTY PERTAINING TO PRODUCTS PROVIDED HEREUNDER. SELLER DISCLAIMS ALL OTHER WARRANTIES, EXPRESS AND IMPLIED, INCLUDING DESIGN, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**
5. **Claims; Commencement of Actions.** Buyer shall promptly inspect all Products upon delivery. No claims for shortages will be allowed unless reported to the Seller within 10 days of delivery. No other claims against Seller will be allowed unless asserted in writing within 30 days after delivery. Buyer shall notify Seller of any alleged breach of warranty within 30 days after the date the defect is or should have been discovered by Buyer. Any action based upon breach of this agreement or upon any other claim arising out of this sale (other than an action by Seller for an amount due on any invoice) must be commenced within 12 months from the date of the breach without regard to the date breach is discovered.
6. **LIMITATION OF LIABILITY.** UPON NOTIFICATION, SELLER WILL, AT ITS OPTION, REPAIR OR REPLACE A DEFECTIVE PRODUCT, OR REFUND THE PURCHASE PRICE. **IN NO EVENT SHALL SELLER BE LIABLE TO BUYER FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR AS THE RESULT OF, THE SALE, DELIVERY, NON-DELIVERY, SERVICING, USE OR LOSS OF USE OF THE PRODUCTS OR ANY PART THEREOF, OR FOR ANY CHARGES OR EXPENSES OF ANY NATURE INCURRED WITHOUT SELLER'S WRITTEN CONSENT, EVEN IF SELLER HAS BEEN NEGLIGENT, WHETHER IN CONTRACT, TORT OR OTHER LEGAL THEORY. IN NO EVENT SHALL SELLER'S LIABILITY UNDER ANY CLAIM MADE BY BUYER EXCEED THE PURCHASE PRICE OF THE PRODUCTS.**
7. **User Responsibility.** The user, through its own analysis and testing, is solely responsible for making the final selection of the system and Product and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application and follow applicable industry standards and Product information. If Seller provides Product or system options, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the Products or systems.
8. **Loss to Buyer's Property.** Any designs, tools, patterns, materials, drawings, confidential information or equipment furnished by Buyer or any other items which become Buyer's property, may be considered obsolete and may be destroyed by Seller after two consecutive years have elapsed without Buyer ordering the items manufactured using such property. Seller shall not be responsible for any loss or damage to such property while it is in Seller's possession or control.
9. **Special Tooling.** A tooling charge may be imposed for any special tooling, including without limitation, dies, fixtures, molds and patterns, acquired to manufacture Products. Such special tooling shall be and remain Seller's property notwithstanding payment of any charges by Buyer. In no event will Buyer acquire any interest in apparatus belonging to Seller which is utilized in the manufacture of the Products, even if such apparatus has been specially converted or adapted for such manufacture and notwithstanding any charges paid by Buyer. Unless otherwise agreed, Seller shall have the right to alter, discard or otherwise dispose of any special tooling or other property in its sole discretion at any time.
10. **Buyer's Obligation; Rights of Seller.** To secure payment of all sums due or otherwise, Seller shall retain a security interest in the goods delivered and this agreement shall be deemed a Security Agreement under the Uniform Commercial Code. Buyer authorizes Seller as its attorney to execute and file on Buyer's behalf all documents Seller deems necessary to perfect its security interest.
11. **Improper use and Indemnity.** Buyer shall indemnify, defend, and hold Seller harmless from any claim, liability, damages, lawsuits, and costs (including attorney fees), whether for personal injury, property damage, patent, trademark or copyright

infringement or any other claim, brought by or incurred by Buyer, Buyer's employees, or any other person, arising out of: (a) improper selection, improper application or other misuse of Products purchased by Buyer from Seller; (b) any act or omission, negligent or otherwise, of Buyer; (c) Seller's use of patterns, plans, drawings, or specifications furnished by Buyer to manufacture Product; or (d) Buyer's failure to comply with these terms and conditions. Seller shall not indemnify Buyer under any circumstance except as otherwise provided.

12. **Cancellations and Changes.** Orders shall not be subject to cancellation or change by Buyer for any reason, except with Seller's written consent and upon terms that will indemnify, defend and hold Seller harmless against all direct, incidental and consequential loss or damage. Seller may change product features, specifications, designs and availability with notice to Buyer.

13. **Limitation on Assignment.** Buyer may not assign its rights or obligations under this agreement without the prior written consent of Seller.

14. **Force Majeure.** Seller does not assume the risk and shall not be liable for delay or failure to perform any of Seller's obligations by reason of circumstances beyond the reasonable control of Seller (hereinafter "Events of Force Majeure") Events of Force Majeure shall include without limitation: accidents, strikes or labor disputes, acts of any government or government agency, acts of nature, delays or failures in delivery from carriers or suppliers, shortages of materials, or any other cause beyond Seller's reasonable control.

15. **Waiver and Severability.** Failure to enforce any provision of this agreement will not waive that provision nor will any such failure prejudice Seller's right to enforce that provision in the future. Invalidation of any provision of this agreement by legislation or other rule of law shall not invalidate any other provision herein. The remaining provisions of this agreement will remain in full force and effect.

16. **Termination.** Seller may terminate this agreement for any reason and at any time by giving Buyer thirty (30) days written notice of termination. Seller may immediately terminate this agreement, in writing, if Buyer: (a) commits a breach of any provision of this agreement (b) appointments a trustee, receiver or custodian for all or any part of Buyer's property (c) files a petition for relief in bankruptcy on its own behalf, or by a third party (d) makes an assignment for the benefit of creditors, or (e) the dissolves or liquidates all or a majority of its assets.

17. **Governing Law.** This agreement and the sale and delivery of all Products hereunder shall be deemed to have taken place in and shall be governed and construed in accordance with the laws of the State of Ohio, as applicable to contracts executed and wholly performed therein and without regard to conflicts of laws principles. Buyer irrevocably agrees and consents to the exclusive jurisdiction and venue of the courts of Cuyahoga County, Ohio with respect to any dispute, controversy or claim arising out of or relating to this agreement.

18. **Indemnity for Infringement of Intellectual Property Rights.** Seller shall have no liability for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights except as provided in this Section. Seller will defend and indemnify Buyer against allegations of infringement of U.S. patents, U.S. trademarks, copyrights, trade dress and trade secrets ("Intellectual Property Rights"). Seller will defend at its expense and will pay the cost of any settlement or damages awarded in an action brought against Buyer based on an allegation that a Product sold pursuant to this Agreement infringes the Intellectual Property Rights of a third party. Seller's obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of such allegations of infringement, and Seller having sole control over the defense of any allegations or actions including all negotiations for settlement or compromise. If a Product is subject to a claim that it infringes the Intellectual Property Rights of a third party, Seller may, at its sole expense and option, procure for Buyer the right to continue using the Product, replace or modify the Product so as to make it noninfringing, or offer to accept return of the Product and return the purchase price less a reasonable allowance for depreciation. Notwithstanding the foregoing, Seller shall have no liability for claims of infringement based on information provided by Buyer, or directed to Products delivered hereunder for which the designs are specified in whole or part by Buyer, or infringements resulting from the modification, combination or use in a system of any Product sold hereunder. The foregoing provisions of this Section shall constitute Seller's sole and exclusive liability and Buyer's sole and exclusive remedy for infringement of Intellectual Property Rights.

19. **Entire Agreement.** This agreement contains the entire agreement between the Buyer and Seller and constitutes the final, complete and exclusive expression of the terms of sale. All prior or contemporaneous written or oral agreements or negotiations with respect to the subject matter are herein merged.

20. **Compliance with Law, U. K. Bribery Act and U.S. Foreign Corrupt Practices Act.** Buyer agrees to comply with all applicable laws and regulations, including both those of the United Kingdom and the United States of America, and of the country or countries of the Territory in which the Buyer may operate, including without limitation the U. K. Bribery Act, the U.S. Foreign Corrupt Practices Act ("FCPA") and the U.S. Anti-Kickback Act (the "Anti-Kickback Act"), and agrees to indemnify and hold harmless Seller from the consequences of any violation of such provisions by Buyer, its employees or agents. Buyer acknowledges that they are familiar with the provisions of the U. K. Bribery Act, the FCPA and the Anti-Kickback Act, and certifies that Buyer will adhere to the requirements thereof. In particular, Buyer represents and agrees that Buyer shall not make any payment or give anything of value, directly or indirectly to any governmental official, any foreign political party or official thereof, any candidate for foreign political office, or any commercial entity or person, for the purpose of influencing such person to purchase products or otherwise benefit the business of Seller.

02/12



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