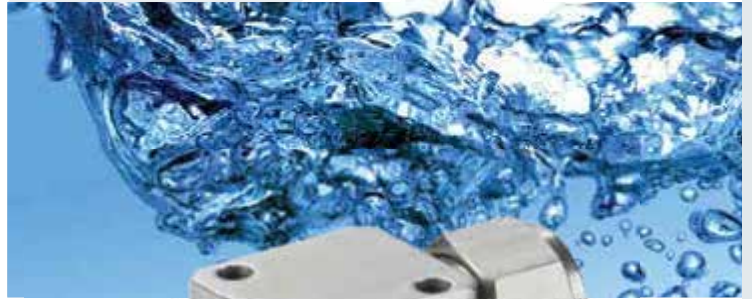


T-TYPE & IN-LINE FILTERS

H-600R, H-600R CNG & H-600 SERIES



H-600R FEATURES

- Bar Stock 316 St.St. or Brass Construction
- On-line Maintenance
- High-Pressure Characteristics 6000 psi (413 bar) in 316St.St. and 2000 psi (137 bar) in brass
- HAM-LET LET-LOK® Ends, Male & Female NPT, and HTC® Face Seal
- Replaceable sintered filtration elements are available in 0.1, 0.5, 2, 7, 15, 40, 60, 90, µm.
- Replaceable strainer filtration elements are available in 140, 230, 440µm
- ECE R110 Approved for the CNG / NGV as an option

T-TYPE FILTERS MATERIALS OF CONSTRUCTION

No.	Components	Qty	Material	
			316 St. St.	Brass
1	Body	1	St.St.ASTM A-276	Brass ASTM B-16
2	Filtration Element	1	316 St.St. (Sintered) / Strainer	
3	Gasket Ring	1	316St.St. (Silver Plated)	Aluminum / B 209
4	Spring	1	St.St. 302	
5	Insert	1	St.St.ASTM A-276	Brass ASTM B-16
6	Nut	1	316St.St.(Silver Plated)	Brass ASTM B-16
7	Locking Ring	1	St.St 304	

T-TYPE FILTERS PRESSURE TEMPERATURE RATING

Temperature °F (°C)		All 316 St.St.		All Brass	
		Allowed Working Pressure, psig / bar			
Min.	Max.	psig	bar	psig	bar
-20 (-28)	100 (37)	6000	414	2000	138
	200 (93)	5160	356	1730	119
	300 (148)	4660	321	1470	101
	400 (204)	4280	295	-	-
	500 (260)	3980	274	-	-
	600 (315)	3760	259	-	-
	650 (343)	3700	255	-	-
	700 (371)	2600	248	-	-
	750 (398)	3520	243	-	-
	800 (426)	3460	239	-	-
850 (454)	3380	233	-	-	
900 (482)	3280	223	-	-	

Note: The maximum allowed working pressure that is marked on the valve may be limited according to the pressure limitations that are recommended by the tubing /piping standards (Reference: Let-Lok tube fittings General Information).

T-TYPE FILTERS FOR THE CNG / NGV PRESSURE TEMPERATURE RATING

Temperature °F (°C)		All 316 St.St.	
		Allowed Working Pressure, psig / bar	
Min.	Max.	psig	bar
-40 (-40)	248 (120)	3770	260

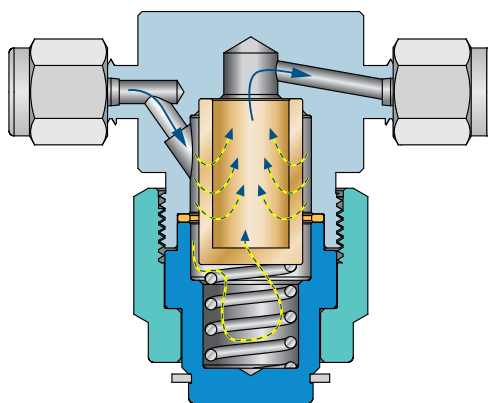
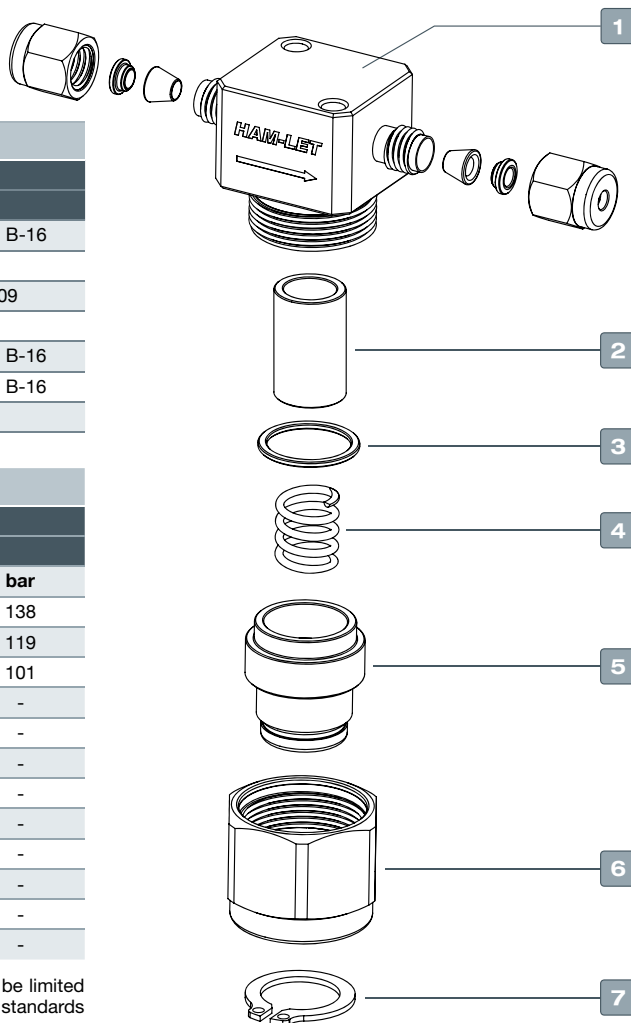
T-TYPE FILTERS FILTRATION AREA

	Connection Size	Sintered element	Strainer element
		in ² (mm ²)	in ² (mm ²)
T-type Filters	1/8, 1/4, 3mm, 6mm	1.3 (830)	1.0 (640)
	3/8, 1/2, 8-12mm	2 (1280)	1.7 (1090)

GENERAL

The H-600R Series is a T-type filtration device, which will protect system components from fluid particles and contaminants.

The H-600R provides easy on-line maintenance without disassembling it from the system.



CLEANING & PACKAGING

Every H-600 Series valve is cleaned in accordance with Standard Cleaning and Packaging (procedure 8184). Oxygen Clean & Lubricant Free Cleaning and packaging, in accordance with Special Cleaning and Packaging (procedure 8185), is available as an option.

TESTING

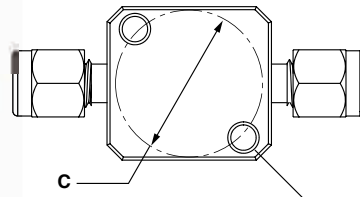
The H-600 and H-600R series designs have been tested for Proof and Burst. Each HAM-LET filter is Nitrogen tested for leakage at 1000 psi.

T-TYPE FILTERS, PRESSURE DROP

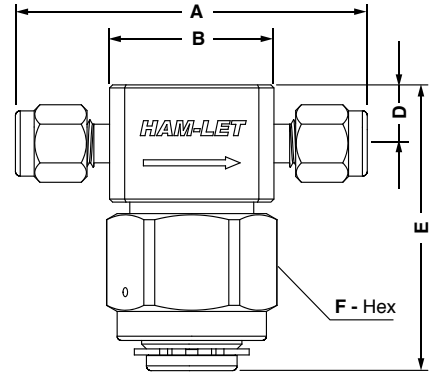
Nominal Element Pore Size μm	Inlet Pressure, psig (bar)						Pressure Drop, psig (bar)					
	5 (0.34)		10 (0.68)		15 (1.0)		10 (0.68)		50 (3.4)		100 (6.8)	
	Air flow						Water flow					
	std ft3/min	std L/min	std ft3/min	std L/min	std ft3/min	std L/min	US gal/min	L/min	US gal/min	L/min	US gal/min	L/min
Connection Size: 1/8", 3MM						Connection Size: 1/8", 3MM						
0.5	0.04	1.1	0.06	1.7	0.12	3.4	0.004	0.15	0.17	0.6	0.29	1.1
2	0.2	5.7	0.4	11.3	0.6	17.0	0.008	0.3	0.24	0.9	0.4	1.5
7	0.5	14.2	0.9	25.5	1.2	34.0	0.1	0.4	0.3	1.1	0.48	1.8
15	0.8	22.7	1.3	36.8	1.5	42.5	0.12	0.5	0.36	1.4	0.58	2.2
40	1.6	45.3	2.0	56.6	2.2	62.3	0.14	0.53	0.4	1.5	0.6	2.3
60	1.7	48.1	2.2	62.3	2.4	68.0	0.15	0.6	0.5	1.9	0.6	2.3
90	1.8	51.0	2.2	62.3	2.6	73.6	0.2	0.8	0.5	1.9	0.6	2.3
140, 230, 440	1.8	51.0	2.3	65.1	2.6	73.6	0.2	0.8	0.5	1.9	0.7	2.6
Connection Size: 1/4", 6MM						Connection Size: 1/4", 6MM						
0.5	0.12	3.4	0.26	7.4	0.48	13.6	0.004	0.15	0.17	0.6	0.29	1.1
2	0.6	17.0	1.14	39.6	2.3	65.1	0.24	0.9	0.86	3.3	1.3	4.9
7	1.2	34.0	2.9	82.1	4.7	133.1	0.4	1.5	1.3	4.9	2	7.6
15	1.4	39.6	2.9	82.1	4.7	133.1	0.5	1.9	1.3	4.9	2.1	7.9
40	2.3	65.0	4.7	133	7.4	210	0.65	2.45	2.0	7.6	3.1	11.8
60	3.1	87.8	5.9	167.1	8.5	240.7	0.8	3.0	2.7	10.2	3.9	14.8
90	4.1	116.1	7.5	212.4	10	283.2	1.1	4.2	3.4	12.9	4.9	18.5
140, 230, 440	4.7	133.1	8.8	249.2	12	339.8	1.2	4.5	4.2	15.9	5.6	21.2
Connection Size: 3/8", 1/2", 8-12MM						Connection Size: 3/8", 1/2", 8-12MM						
0.5	0.36	10.2	0.86	24.4	1.6	45.3	0.09	0.3	0.4	1.5	0.76	2.9
2	1.4	39.6	2.8	79.3	4	113.3	0.26	1.0	1.1	4.2	1.6	6.1
7	1.8	51.0	4.2	118.9	6.8	192.6	0.64	2.4	2.2	8.3	3.5	13.2
15	1.8	51.0	4.9	138.8	7.9	223.7	0.84	3.2	2.6	9.8	4.1	15.5
40	4.2	119	9.1	257.5	14	396	1.3	4.9	4.2	15.9	5.9	22.3
60	5.1	144.4	10	283.2	15	424.8	1.5	5.7	4.8	18.2	6.7	25.4
90	6.1	172.7	11	311.5	16	453.1	1.7	6.4	5.5	20.8	7.6	28.8
140, 230, 440	7.2	203.9	14	396.4	20	566.3	2.4	9.1	7.2	27.3	10	37.9

Outlet is open to atmosphere.

H-600R T-TYPE



2 mounting holes
M5 X0.8 threads
7mm (0.275") deep



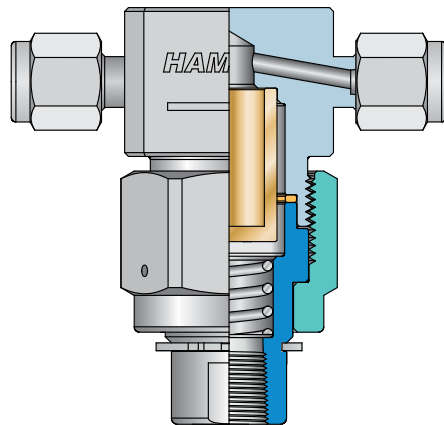
T-TYPE STANDARD CONFIGURATION DIMENSIONS

Orifice		Connection Size		A		B		C		D		E		F	
mm	inch	Inlet	Outlet	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
2.39	0.094	1/8" LET-LOK®	1/8" LET-LOK®	57.6	2.27	27.1	1.07	25.4	1.00	9.80	0.39	47.4	1.87	25.4	1.00
4.41	0.174	1/4" LET-LOK®	1/4" LET-LOK®	62.8	2.47	26.8	1.06	25.4	1.00	9.80	0.39	47.4	1.87	25.4	1.00
5.41	0.213	3/8" LET-LOK®	3/8" LET-LOK®	72.2	2.84	33.6	1.32	28.8	1.13	11.6	0.46	56.0	2.20	28.6	1 1/8
6.35	0.250	1/2" LET-LOK®	1/2" LET-LOK®	77.3	3.04	33.4	1.31	28.8	1.13	11.6	0.46	56.0	2.20	28.6	1 1/8
4.41	0.174	6MM LET-LOK®	6MM LET-LOK®	62.4	2.46	26.8	1.06	25.4	1.00	9.80	0.39	47.6	1.87	25.4	1.00
5.41	0.213	8MM LET-LOK®	8MM LET-LOK®	72.2	2.84	35.2	1.39	28.8	1.13	11.6	0.46	56.0	2.20	28.6	1 1/8
6.35	0.250	10MM LET-LOK®	10MM LET-LOK®	72.5	2.85	33.3	1.31	28.8	1.13	11.6	0.46	56.0	2.20	28.6	1 1/8
6.35	0.250	12MM LET-LOK®	12MM LET-LOK®	77.3	3.04	33.4	1.31	28.8	1.13	11.6	0.46	56.0	2.20	28.6	1 1/8
4.41	0.174	1/8" Female NPT	1/8" Female NPT	50.7	2.00	25.4	1.00	25.4	1.00	9.80	0.39	47.6	1.87	25.4	1.00
4.41	0.174	1/4" Female NPT	1/4" Female NPT	54.2	2.13	25.4	1.00	25.4	1.00	9.80	0.39	47.6	1.87	25.4	1.00
4.41	0.174	1/4" Male NPT	1/4" Male NPT	54.2	2.13	25.4	1.00	25.4	1.00	9.80	0.39	47.6	1.87	25.4	1.00
6.35	0.250	3/8" Male NPT	3/8" Male NPT	60.4	2.38	31.7	1.25	28.8	1.13	11.6	0.46	56.0	2.20	28.6	1 1/8
6.35	0.250	1/2" Male NPT	1/2" Male NPT	70.0	2.76	31.7	1.25	28.8	1.13	11.6	0.46	56.0	2.20	28.6	1 1/8
4.41	0.174	1/4" Male Face Seal	1/4" Male Face Seal	58.8	2.31	27.2	1.07	25.4	1.00	9.80	0.39	47.6	1.87	25.4	1.00

Dimensions are for reference only, and are subject to change without notice.

H-600R SERIES BY-PASS/PURGE

(Please see ordering information)



H-600 FEATURES

- Bar Stock 316St.St. or Brass Construction
- Moderate Pressure Characteristics 3000 psi (206 bar) in 316 St.St. and 1000 psi (68 bar) in Brass
- HAM-LET LET-LOK® Ends, Male & Female NPT, and HTC® Face-Seal Bead
- Replaceable sintered filtration elements are available in 0.1, 0.5, 2, 7, 15, 40, 60, 90, μm .
- Replaceable strainer filtration elements are available in 140, 230, 440 μm .

GENERAL

The H-600 Series is an In-Line filtration device. It will be installed in a system to protect the system components from fluid particles and contaminants.

IN-LINE FILTER MATERIALS OF CONSTRUCTION

No.	Qty	Qty	Material	
			316 St. St.	Brass
1	Body	1	St.St.ASTM A-276	Brass ASTM B-16
2	Filtration Element	1	316 St.St.	
3	Spring	1	316 St.St.	
4	Gasket Ring	1	316St.St. (Silver Plated)	Aluminum / B 209
5	End	1	St.St.ASTM A-276	Brass ASTM B-16
6	Front Ferulle	2	St.St.ASTM A-276	Brass ASTM B-16
7	Back Ferulle	2	St.St.ASTM A-276	Brass ASTM B-16
8	Nut	2	St.St.ASTM A-276	Brass ASTM B-16

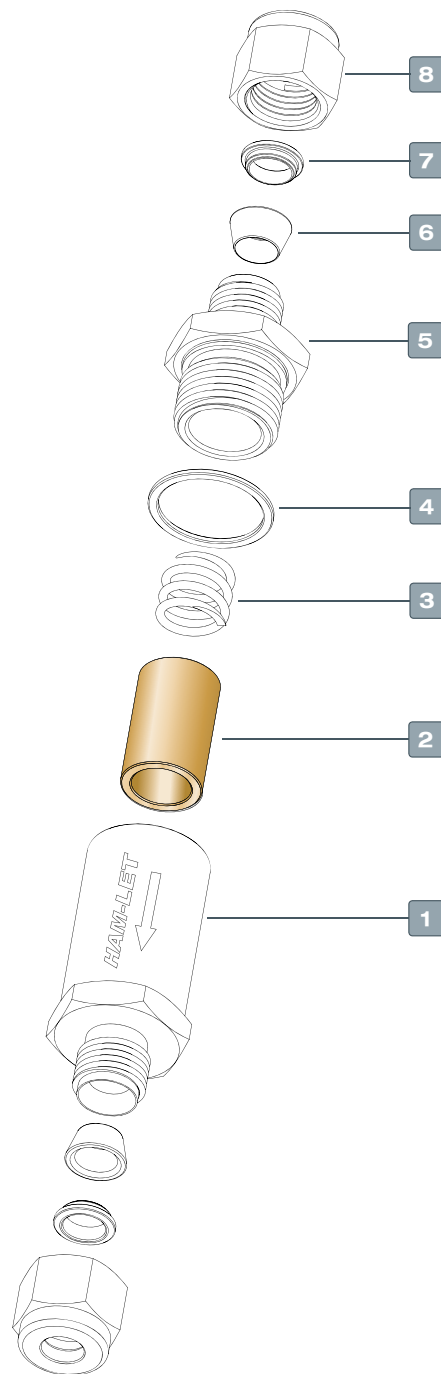
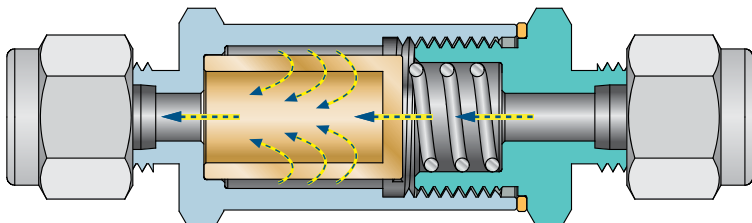
IN-LINE FILTER PRESSURE TEMPERATURE RATING

Connection Size		1/8", 1/4", 3mm, 6mm		3/8", 1/2", 8-12mm		All	
Material Temp. °F (°C)		316St.St.		316St.St.		Brass	
		Allowed Working Pressure, psig / bar					
Min.	Max.	psig	bar	psig	bar	psig	bar
-20 (-28)	100 (37)	3000	207	2500	172	1000	69
	200 (93)	2580	178	2150	148	780	54
	300 (148)	2330	161	1940	134	680	47
	400 (204)	2140	148	1780	123	-	-
	500 (260)	1990	137	1660	114	-	-
	600 (315)	1880	130	1560	108	-	-
	650 (343)	1845	127	1540	106	-	-
	700 (371)	1800	124	1500	103	-	-
	750 (398)	1760	121	1460	101	-	-
	800 (426)	1725	119	1440	99	-	-
	850 (454)	1690	117	1410	97	-	-
	900 (482)	1640	113	1360	94	-	-

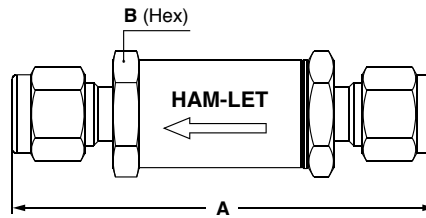
Note: The maximum allowed working pressure that is marked on the valve may be limited according to the pressure limitations that are recommended by the tubing /piping standards (Reference: Let-Lok tube fittings General Information).

IN-LINE FILTRATION AREA

	Connection Size	Sintered element	Strainer element
		in ² (mm ²)	in ² (mm ²)
In-Line Filters	1/8, 3mm	0.55 (350)	-
	1/4, 6mm	1.3 (830)	1.0 (640)
	3/8, 1/2, 8-12mm	2 (1280)	1.7 (1090)



H-600 IN-LINE



IN-LINE FILTER STANDARD CONFIGURATION DIMENSIONS

Orifice		Conection Size		A		B (Hex)	
mm	inch	Inlet	Outlet	mm	inch	mm	inch
2.39	0.094	1/8" LET-LOK®	1/8" LET-LOK®	57.5	2.26	14.4	9/16
4.75	0.187	1/4" LET-LOK®	1/4" LET-LOK®	74.7	2.94	19.05	3/4
7.14	0.281	3/8" LET-LOK®	3/8" LET-LOK®	81.4	3.20	25.4	1
10.30	0.406	1/2" LET-LOK®	1/2" LET-LOK®	88.5	3.48	25.4	1
2.39	0.094	3MM LET-LOK®	3MM LET-LOK®	57.5	2.26	14.4	9/16
4.75	0.187	6MM LET-LOK®	6MM LET-LOK®	74.9	2.95	19.05	3/4
6.40	0.252	8MM LET-LOK®	8MM LET-LOK®	80.1	3.15	25.4	1
7.90	0.311	10MM LET-LOK®	10MM LET-LOK®	81.9	3.22	25.4	1
2.39	0.094	1/8" Female NPT	1/8" Female NPT	55.0	2.17	14.4	9/16
4.75	0.187	1/4" Female NPT	1/4" Female NPT	73.0	2.87	19.05	3/4
10.30	0.406	1/2" Female NPT	1/2" Female NPT	85.5	3.36	26.69	1 1/16
4.75	0.187	1/4" Male NPT	1/4" Male NPT	68.2	2.69	19.05	3/4
9.50	0.374	3/8" Male NPT	3/8" Male NPT	71.1	2.8	25.4	1
4.75	0.187	1/4" Male Face Seal	1/4" Male Face Seal	71.5	2.81	19.05	3/4
10.3	0.406	1/2" Male Face Seal	1/2" Male Face Seal	78.4	3.08	25.4	1

IN-LINE FILTER PRESSURE DROP

Nominal Element Pore Size μm	Inlet Pressure, psig (bar)						Pressure Drop, psig (bar)					
	5 (0.34)		10 (0.68)		15 (1.0)		10 (0.68)		50 (3.4)		100 (6.8)	
	Air flow						water flow					
	std ft3/min	std L/min	std ft3/min	std L/min	std ft3/min	std L/min	US gal/min	L/min	US gal/min	L/min	US gal/min	L/min
	Connection Size: 1/8", 3MM						Connection Size: 1/8", 3MM					
0.5	0.04	1.1	0.06	1.7	0.12	3.4	0.01	0.03	0.04	0.15	0.12	0.5
2	0.2	5.7	0.4	11.3	0.6	17.0	0.08	0.3	0.24	0.9	0.4	1.5
7	0.5	14.2	0.9	25.5	1.2	34.0	0.1	0.4	0.3	1.1	0.48	1.8
15	0.8	22.7	1.3	36.8	1.5	42.5	0.12	0.5	0.36	1.4	0.58	2.2
60	1.7	48.1	2.2	62.3	2.4	68.0	0.15	0.6	0.5	1.9	0.6	2.3
90	1.8	51.0	2.2	62.3	2.6	73.6	0.2	0.8	0.5	1.9	0.7	2.6
	Connection Size: 1/4", 6MM						Connection Size: 1/4", 6MM					
0.5	0.12	3.4	0.26	7.4	0.48	13.6	0.04	0.2	0.17	0.64	0.29	1.1
2	0.6	17.0	1.4	39.6	2.3	65.1	0.24	0.9	0.68	3.25	1.3	4.9
7	1.2	34.0	2.9	82.1	4.7	133.1	0.4	1.5	1.3	4.92	2	7.6
15	1.4	39.6	2.9	82.1	4.7	133.1	0.5	1.9	1.3	4.92	2.1	7.9
40	2.2	62.3	4.7	133	7.3	206.5	0.75	2.8	2.6	9.84	4.1	15.5
60	3.1	87.8	5.9	167.1	8.5	240.7	0.9	3.4	3.3	12.49	4.6	17.4
90	4.1	116.1	7.5	212.4	10	283.2	1.2	4.5	4.2	15.89	6.1	23.1
140, 230, 440	4.7	133.1	8.8	249.2	12	339.8	1.7	6.4	5.6	21.19	7.8	29.5
	Connection Size: 3/8", 1/2", 8-12MM						Connection Size: 3/8", 1/2", 8-12MM					
0.5	0.36	10.2	0.86	24.4	1.6	45.3	0.09	0.34	0.4	1.5	0.76	2.9
2	1.4	39.6	2.8	79.3	4	113.3	0.26	1.0	1.1	4.1	1.6	6.1
7	1.8	51.0	4.2	118.9	6.8	192.6	0.64	2.4	2.2	8.3	3.5	13.2
15	1.8	51.0	4.9	138.8	7.9	223.7	0.84	3.2	2.6	9.8	4.1	15.5
40	4.2	119	9.1	257.5	14	396	1.5	5.67	5.9	22.3	9.1	34.4
60	5.1	144.4	10	283.3	15	424.8	2	7.5	6.7	25	10	37.9
90	6.1	172.7	11	311.5	16	453.1	2.3	8.7	7.6	28	11	41.6
40, 140, 200	7.2	203.9	14	396.4	20	566.3	4.8	18	15	56	19	71.9

Outlet is open to atmosphere.

H-600 IN-LINE FILTER & H-600R T-TYPE FILTER ORDERING INFORMATION

H-6 **00** **R** - **SS** - **L** - **1/4** - **2** - **OPTIONAL**

Filter Series

Valve Type (Inlet-Outlet)

00	LET-LOK® End
10	Female End
80	Male End

* For other Filter types, please consult HAM-LET representative

Body Type

BLANK	In Line
R	T Type

Body and Ends Material

SS	St.St. 316
B	Brass

End Connection Type

L	LET-LOK® End
N	Threaded NPT
G	ISO Parallel
R	ISO Tapered
GL	Metal Gasket Face seal
HO	Male O-ring Face seal

Other end connections are available upon request.

End Connection Size

1/8	3 MM
1/4	6 MM
	8 MM
3/8	10 MM
1/2	12 MM

Filtration Level (Micron)

0.1
0.5
2
7
15
40
60
90
140
230
440
LE

LE - Less Element

Approval

BLANK	- Standard
CNG	- ECE R110

Treatment

BLANK	- Standard Cleaning & Passivation
OC	- Oxygen Clean
LF	- Lubricant Free

Purge Options

BLANK Standard - No bypass

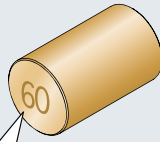
BYPASS DESIGNATOR - See table 1

SPARE KIT



Gasket

Kit includes gasket ring, disassembly and reassembly instructions.



Filtration Element

Kit includes element, disassembly and reassembly instructions.

Filtration Level is marked on the element (µm)

Series	End connection size	Filtration Element Kit Ordering Number	Gasket Ring Kit Ordering Number	
		Stainless & Brass Filters	Stainless Filters	Brass Filters
H-600	1/8", 3MM	Z-600-FK-1/8-XX	Z-600-GK-1/8	Z-600-GK-1/8-B
	1/4", 6MM	Z-600-FK-1/4-XX	Z-600-GK-1/4	Z-600-GK-1/4-B
	3/8", 1/2" 8MM, 10MM, 12MM	Z-600-FK-1/2-XX	Z-600-GK-1/2	Z-600-GK-1/2-B
H-600R	1/8", 1/4", 3MM, 6MM	Z-600-FK-1/4-XX	Z-600R-GK-1/4	Z-600R-GK-1/4-B
	3/8", 1/2" 8MM, 10MM, 12MM	Z-600-FK-1/2-XX	Z-600R-GK-1/2	Z-600R-GK-1/2-B

XX - Means filtration level.

Filtration kit ordering example: 2micron Filtration Element Kit for H-600R 3mm : Z-600-FK-1/4-2

Gasket kit ordering example: Gasket Kit for H-600 3mm : Z-600-GK-1/8

For Oxygen and Lubricant free service, add OC designator to the end of the kit ordering number

Table 1:

H600-R T-TYPE SERIES BYPASS/PURGE

Port enables sampling or purging

Series	Valve End Connection Size	Bypass/purge port end connection	Overall Height in (mm)	Desig.
H-600R	1/8", 1/4", 3mm, 6mm	1/8" LET-LOK®	2.36 (60.0)	B1
		1/8" Female NPT	2.08 (53.0)	B2
		1/4" LET-LOK®	2.81 (71.5)	B3
	3/8", 1/2", 8mm, 10mm, 12mm	1/8" Female NPT	2.46 (62.5)	B4
		1/4" LET-LOK®	3.15 (80.0)	B5
		3/8" LET-LOK®	3.19 (81.0)	B6
		1/2" LET-LOK®	3.42 (87.0)	B7

Warning!

The system designer and user have the sole responsibility for selecting products suitable for their special application requirements, ensuring their safe and trouble-free installation, operation, and maintenance. Application details, material compatibility and product ratings should all be considered for each selected product. Improper selection, installation or use of products can cause property damage or personal injury.

H-600 & H600R, Rev.12, January 2015