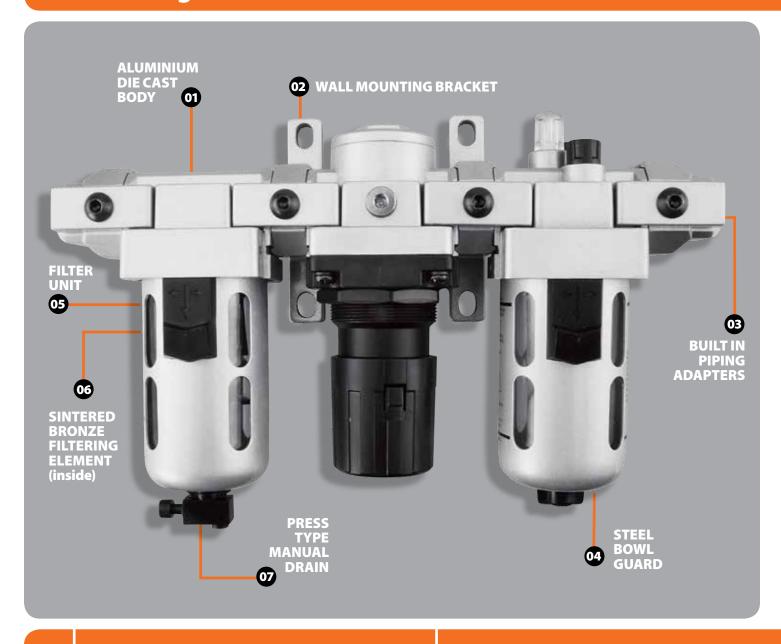
GROZ

## **Introducing GROZ Air - air control units**



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V

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Filter Regulator Combination	10
Filter Regulator Combination - Metal Bowl	11

#### **QUALITY FEATURES:**

- Industrial construction with Aluminum Die Cast bodies as opposed to plastic bodies provides for a factor of safety of over 9 times, allows use at higher temperatures & allows for better tightening of piping without stripping the threads
- **102** Built-in Wall Mounting Bracket
- **Built-in Piping Adapters** allows the individual components to be easily removed/mounted without disturbing the pipe line
- Steel Bowl Guard protects the polycarbonate bowl from getting damaged
- Filter unit incorporates both Separator & Shield for maximum moisture separation
- Of Sintered Bronze Filtering Element as opposed to commonly used paper filter provides for better filtration without the need to replace the filter element
- **Press Type Manual Drain** Incorporates "Night Time Drain" feature- automatically drains off the bowl when compressed air supply is switched off

#### **OTHER FEATURES:**

- Each unit is 100% factory tested & certified for guaranteed performance
- Designed for max. flow with proper sizing of all components
- Fully Modular for easy maintenance

# **Welcome** to the expanding world of Groz

Groz is a leading global enterprise, specializing in the manufacture of engineering tools and lubrication equipment.

We have covered fair ground over the last few years with our range of Pneumatic Products - Air Control and Air Preparation Units, and now we have enhanced this range further. This will help you find a comprehensive range from one brand.

The units are manufactured to stringent specifications and we promise you a fine product range because quality and consistency is the hallmark of our brand.

It is our firm belief that you will find our new offering to your satisfaction.

We appreciate your business and value your loyalty & trust.

Warm Regards,

Anil Bammi, Chairman

Filter-Regulator & Lubricator - 2 pc	12	Automatic Line Drain	20
Filter-Regulator & Lubricator - 2 pc, Metal Bowl	14	FRL Accessories	21
Filter-Regulator- Lubricator - 3 pc	16	Air Line Accessories Air Blow Guns & Kit	25
Filter-Regulator- Lubricator, 3 pc, Metal Bowl	18	Air Line Accessories Air Coupler, Nipples, Air Line Fittings	29

## **Air Regulators**

regulateur regulador de regler

#### **R13**

MINIATURE Max flow rate:

#### **R14**

INTERMEDIATE Max flow rate: 88 CFM / 2500 LPM In-built Venturi for Flow Compensation

#### **R15**

**STANDARD** Max flow rate: 140 CFM / 4000 LPM In-built Venturi for Flow Compensation

#### **R17**

**HEAVY DUTY** Max flow rate: 210 CFM / 6000 LPM In-built Venturi for Flow Compensation



Factory Tested











**CONFORMS TO** ISO 6953-1

One of the most commonly used air line accessories, Regulators are used to maintain a steady outlet pressure, unaffected by variations/fluctuations in the inlet pressure.

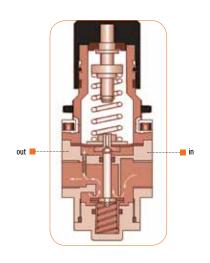
**Regulators** step down the air line pressure & can be set at any desired pressure below the inlet air pressure.

Aluminum die cast, these are designed with a Non Raising "Press to Lock" adjusting knob for locking at any set pressure.

**Regulators** work on a Diaphragm operated, relieving type mechanism with pressure compensated by balanced poppet. These can be installed in any position & need not be vertically mounted

WETTED COMPONENTS: Aluminum, Brass, Steel, Acetal, Stainless Steel & Nitrile

**NOTE:** Also available Tamper Proof Regulators which are set at one non adjustable outlet pressure.



#### **ACCESSORIES** available







CLAMP, p23

MODULAR MOUNTING KIT, p22

PRESSURE GAUGE, p23



Groz Part#	Ordering #	Groz Part #	Ordering #	Description	Port Size		Rate x)**	Pressure Gauge	Heig	ht (h)	Width (w)	
В	SP	NP	Т		Size	CFM	LPM	Port Size	in	mm	in	mm
R13604	60000	R13904	60050	Miniature	1/8"	17	480	1/8"	3.19	81	1.57	40
R13614	60001	R13914	60051	Miniature	1/4"	21	600	1/8"	3.19	81	1.57	40
R14614	60002	R14914	60052	Intermediate	1/4"	56	1600	1/8″	5.31	135	2.16	55
R14624	60003	R14924	60053	Intermediate	3/8"	88	2500	1/8"	5.31	135	2.16	55
R15634	60004	R15934	60054	Standard	1/2"	140	4000	1/8″	6.50	165	2.75	70
R17644	60005	R17944	60055	Heavy Duty	3/4"	175	5000	1/4″	6.97	177	3.54	90
R17654	60006	R17954	60056	Heavy Duty	1"	210	6000	1/4″	6.97	177	3.54	90

\*\* Inlet Pressure 105 PSI (7 BAR), Supply Pressure 90 PSI (6 BAR) and Pressure Drop 17 PSI (1 BAR)



#### **STANDARD** configuration

 Pressure adjustment range of 7 - 145 PSI (0.5 - 10 BAR)

#### **OPTIONAL** configuration

Custom built include the following Pressure Adjustment ranges:

- 3 28 PSI (0.2 2 BAR)
- 3 58 PSI (0.2 4 BAR)
- 8 100 PSI (0.5 7 BAR)



## **Air Filters**

fr filtre filtro de filter

#### F13

MINIATURE Max flow rate: 28 CFM / 800 LPM Threaded type steel bowl guard

#### F14 INTERMEDIATE

Max flow rate: 80 CFM / 2250 LPM Bayonet type steel bowl guard

#### F15

STANDARD Max flow rate: 125 CFM / 3500 LPM Bayonet type steel

bowl guard

#### **F17**

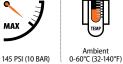
**HEAVY DUTY** Max flow rate: 230 CFM / 6500 LPM

Bayonet type steel bowl guard



Factory Tested











**CONFORMS TO** ISO 5782-1

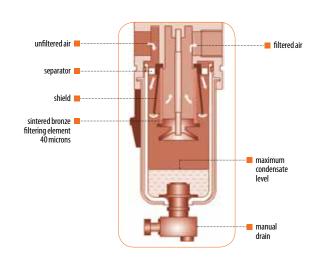
Air Filters are used to separate dust, dirt, moisture & other contaminants from compressed air

These have a Die Cast aluminum filter head, polycarbonate bowl with a steel bowl guard & high performance sintered Bronze filtering element

Designed with a Separator & Shield for efficient moisture separation

#### **WETTED COMPONENTS:**

Aluminum, Bronze, Steel, Acetal, Polycarbonate, Stainless Steel & Nitrile





#### WARNING!

Polycarbonate bowls may get damaged and possibly fail if exposed to synthetic oils, thinner, solvents, trichloroethylene, kerosene or other aromatic hydrocarbons

#### **STANDARD** configuration

- 40 micron filtering element
- Press Type Manual Drain with Night Time Drain feature which automatically drains off the bowl once the compressed air supply to the filter is switched off

#### **OPTIONAL** configurations

Custom options for Filtering element:

• 5 Micron • 25 micron

• 50 Micron • 100 Micron

Drain Type options include an Internal & an External Auto drain

#### **ACCESSORIES** available





MODULAR MOUNTING KIT, p22 CLAMP, p23



Groz Part#	Ordering #	Groz Part #	Ordering #	Description	Port Size		Rate x)**	Bow	l Size	Heig	ht (h)	Widt	th (w)
BS	P	NP	т		Size	CFM	LPM	Oz.	ml	in	mm	in	mm
F13603-S	60100	F13903-S	60150	Miniature	1/8"	11	310	0.3	9	4.45	113	1.57	40
F13613-S	60101	F13913-S	60151	Miniature	1/4"	28	800	0.3	9	4.45	113	1.57	40
F14613-S	60102	F14913-S	60152	Intermediate	1/4"	49	1400	1.08	32	5.51	140	2.16	55
F14623-S	60103	F14923-S	60153	Intermediate	3/8"	80	2250	1.08	32	5.51	140	2.16	55
F15633-S	60104	F15933-S	60154	Standard	1/2"	125	3500	1.5	44	6.77	172	2.75	70
F17643-S	60105	F17943-S	60155	Heavy Duty	3/4"	175	5000	5.6	165	10.24	260	3.54	90
F17653-S	60106	F17953-S	60156	Heavy Duty	1"	230	6500	5.6	165	10.24	260	3.54	90

<sup>\*\*</sup> Inlet Pressure 90 PSI (6 BAR) and Pressure Drop 4.5 PSI (0.3 BAR)

## **Air Filters - Metal Bowl**

filtre - cuvette en métal sp filtro - tazón del metal

de filter - Metallschüssel

F13-M

MINIATURE Max flow rate: 28 CFM / 800 LPM

Factory Tested

F14-M

INTERMEDIATE Max flow rate: 80 CFM / 2250 LPM F15-M

STANDARD Max flow rate: 125 CFM / 3500 LPM F17-M

**HEAVY DUTY** Max flow rate: 230 CFM / 6500 LPM

100%



290 PSI (20 BAR)

VERTICAL

**CONFORMS TO** ISO 5782-1



Chemical Industry

Air Filters are used to separate dust, dirt, moisture & other contaminants from compressed air.

These have a Die Cast Aluminum Filter Head & bowl with a high performance Sintered Bronze Filtering element. Designed with a Separator & Shield for efficient moisture separation.

Metal Bowl makes these good for use in Chemical plants, Paint shops, pharmaceutical plants, foundries etc. where ambient air may contain chemicals, such as acetone, benzene, kerosene, gasoline, carbon tetrachloride, ethylene dichloride, toluene etc. These are also recommended for high pressure applications and for use with air compressor systems using fire resistant lubricants.

#### **WETTED COMPONENTS:**

Aluminum, Bronze, Steel, Stainless Steel & Nitrile





F 15933-MS >

# manual drain

#### **STANDARD** configuration

- 40 micron filtering element
- Press Type Manual Drain with Night Time Drain feature which automatically drains off the bowl once the compressed air supply to the filter is switched off

#### **OPTIONAL** configurations

Custom options for Filtering element:

- 5 Micron 25 micron
- 50 Micron 100 Micron

Drain Type options include an Internal & an External Auto drain

#### **ACCESSORIES** available





MODULAR MOUNTING KIT, p22



Groz Part #	Ordering #	Groz Part #	Ordering #	Description	Port Size		Rate x)**	Bow	Bowl Size		ht (h)	Width (w)	
BS	P	NP	T		Size	CFM	LPM	Oz.	ml	in	mm	in	mm
F13613-MS	60130	F13913-MS	60180	Miniature	1/4"	28	800	0.3	9	4.53	115	1.57	40
* F14613-MS	60129	F14913-MS	60185	Intermediate	1/4"	49	1400	2.17	64	7.4	188	2.16	55
F14623-MS	60131	F14923-MS	60181	Intermediate	3/8"	80	2250	2.17	64	7.4	188	2.16	55
F15633-MS	60132	F15933-MS	60182	Standard	1/2"	125	3500	3.0	90	8.82	224	2.75	70
F17643-MS	60133	F17943-MS	60183	Heavy Duty	3/4"	175	5000	5.6	165	10.43	265	3.54	90
F17653-MS	60134	F17953-MS	60184	Heavy Duty	1″	230	6500	5.6	165	10.43	265	3.54	90

<sup>\*\*</sup> Inlet Pressure 90 PSI (6 BAR) and Pressure Drop 4.5 PSI (0.3 BAR)

metal

bowl

#### **FS13**

MINIATURE Max flow rate: 25 CFM / 700 LPM Threaded Type Steel

#### **FS14**

INTERMEDIATE Max flow rate: 57 CFM / 1600 LPM Bayonet Type Steel Bowl Guard

#### **FS15**

**STANDARD** Max flow rate:

124 CFM / 3500 LPM Bayonet Type Steel Bowl Guard

#### **FS17**

**HEAVY DUTY** Max flow rate: 78 CFM / 2200 LPM

Bayonet Type Steel Bowl Guard



Factory Tested

**Bowl Guard** 











**CONFORMS TO** ISO 8573-1

Coalescing Filters, also referred to as Mist Separators are used to remove sub micronic oil, water droplets and solid contaminants from compressed air. These are used for high efficient filtration of compressed air (99.99%), removing fine oil particles and droplets of sizes upto 0.01 microns. Used primarily in Chemical plants, Medical, Food Processing, Paint Shops, Air gauging & other precision pneumatic systems

These have a die cast aluminum filter head, polycarbonate bowl with a steel bowl guard & high performance Borosilicate filtering element.

Designed with a Separator for efficient moisture separation

#### **WETTED COMPONENTS:**

Aluminum, Borosilicate, Steel, Acetal, Polycarbonate, Stainless Steel & Nitrile

#### WARNING!

Polycarbonate bowls may get damaged and possibly fail if exposed to synthetic oils, thinner, solvents, trichloroethylene, kerosene or other aromatic hydrocarbons

#### WARNING!

Coalescing Filters must be installed after a standard Air Filter with 5 micron filter element

#### **STANDARD** configuration

- Choice of 0.01 micron or 0.10 micron filtering element
- Press type manual Drain with Night time **Drain** feature which automatically drains off the bowl once the compressed air supply to the filter is switched off

#### **OPTIONAL** configurations

Drain Type options include an Internal & an External Auto drain

#### **ACCESSORIES** available





MODULAR MOUNTING KIT, p22

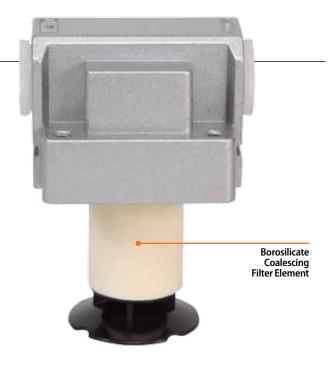


Groz Part #	Ordering #	Groz Part #	Ordering #	Description	Port Size	Flow Ra	ate (Max)**	Bow	l Size	Hei	Height		dth
Coalescing Air I	Filters (0.10 Mic	crons)				CFM	LPM	Oz.	ml	in	mm	in	mm
BS	Р	NF	זי										
FS13603-S	60800	FS13903-S	60850	Miniature	1/8"	11	300	0.3	9	4.45	113	1.57	40
FS13613-S	60801	FS13913-S	60851	Miniature	1/4"	25	700	0.3	9	4.45	113	1.57	40
FS14613-S	60802	FS14913-S	60852	Intermediate	1/4"	43	1200	1.08	32	5.51	140	2.16	55
FS14623-S	60803	FS14923-S	60853	Intermediate	3/8"	57	1600	1.08	32	5.51	140	2.16	55
FS15633-S	60804	FS15933-S	60854	Standard	1/2"	124	3500	1.5	44	6.77	172	2.75	70

<sup>\*\*</sup> Inlet Pressure 90 PSI (6 BAR) & Pressure Drop 4.5 PSI (0.3 BAR)









Groz Part #	Ordering #	Groz Part #	Ordering #	Description	Port Size		Rate x)**	Bow	Bowl Size		Height		dth
Coalescing Air	Filters (0.01 Mic	crons)	,			CFM	LPM	Oz.	ml	in	mm	in	mm
BS	P	NP	т										
FS13602-S	60820	FS13902-S	60870	Miniature	1/8"	7	200	0.3	9	4.45	113	1.57	40
FS13612-S	60821	FS13912-S	60871	Miniature	1/4"	11	300	0.3	9	4.45	113	1.57	40
FS14612-S	60822	FS14912-S	60872	Intermediate	1/4"	28	800	1.08	32	5.51	140	2.16	55
FS14622-S	60823	FS14922-S	60873	Intermediate	3/8"	32	900	1.08	32	5.51	140	2.16	55
FS15632-S	60824	FS15932-S	60874	Standard	1/2"	48	1350	1.5	44	6.77	172	2.75	70
▲ FS17642-S	60825	FS17942-S	60875	Heavy Duty	3/4"	71	2000	5.6	165	10.24	260	3.54	90
▲ FS17652-S	60826	FS17952-S	60876	Heavy Duty	1"	78	2200	5.6	165	10.24	260	3.54	90

<sup>\*\*</sup> Inlet Pressure 90 PSI (6 BAR) & Pressure Drop 4.5 PSI (0.3 BAR)

<sup>▲</sup> Max. Pressure Limited to 8 BAR (116 PSI)

## **Air Lubricators**

fr graisseur lubricador de schmiervorrichtung

#### **L13**

**MINIATURE** Max flow rate: 48 CFM / 1350 LPM Min flow rate: 0.42 CFM / 12 LPM Threaded type steel bowl guard

#### L14

INTERMEDIATE Max flow rate: 106 CFM / 3000 LPM Min flow rate: 1.41 CFM / 40 LPM Bayonet type steel bowl guard

#### **L15**

**STANDARD** Max flow rate: 200 CFM / 5650 LPM Min flow rate: 1.59 CFM / 45 LPM Bayonet type steel bowl guard

#### **L17**

**HEAVY DUTY** Max flow rate: 318 CFM / 9000 LPM Min flow rate: 1.76 CFM / 50 LPM Bayonet type steel bowl guard







Factory Tested













Air Lubricators are used to feed lubricants to pneumatic equipment. These maintain a constant oil-to-air density over a wide range of flow.

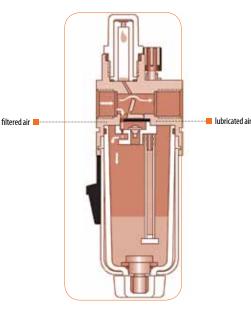
The Groz L1 series Lubricators are Fog/ MicroMist type, upto 50' pipe runs

These have a Die Cast Aluminum Head, polycarbonate bowl with a steel bowl guard. The head is fitted with Oil drop indicator, Oil drop controller & Oil filling plug

#### **WETTED COMPONENTS:**

Aluminum, Bronze, Steel, Acetal, Polycarbonate, Stainless Steel & Nitrile

NOTE: Designed for best performance with 32 grade oil





## WARNING!

Polycarbonate bowls may get damaged and possibly fail if exposed to synthetic oils, thinner, solvents, trichloroethylene, kerosene or other aromatic hydrocarbons

#### **ACCESSORIES** available









Groz Part#	Ordering #	Groz Part #	Ordering #	Description	Port Size		Rate x)**	Bowl	l Size	Heig	ht (h)	Widt	h (w)
BS	SP .	NP	Т		JIZE	CFM	LPM	Oz.	ml	in	mm	in	mm
L1360	60200	L1390	60250	Miniature	1/8″	16	450	0.68	20	5.31	135	1.57	40
L1361	60201	L1391	60251	Miniature	1/4″	48	1350	0.68	20	5.31	135	1.57	40
* L1461	60206	L1491	60256	Intermediate	1/4″	58	1650	1.98	57	6.18	157	2.16	55
L1462	60202	L1492	60252	Intermediate	3/8″	106	3000	1.98	57	6.18	157	2.16	55
L1563	60203	L1593	60253	Standard	1/2″	200	5650	5.13	152	7.48	190	2.75	70
L1764	60204	L1794	60254	Heavy Duty	3/4"	255	7200	6.8	200	10.75	273	3.54	90
L1765	60205	L1795	60255	Heavy Duty	1″	318	9000	6.8	200	10.75	273	3.54	90

<sup>\*\*</sup> Inlet Pressure 90 PSI (6 BAR) and Pressure Drop 7.5 PSI (0.5 BAR)

\* New

## **Air Lubricators - Metal Bowl**

graisseur - cuvette en métal lubricador - tazón del metal sp

de schmiervorrichtung mit metallbehälter

#### L13-M

MINIATURE Max flow rate: Min flow rate: 0.42 CFM / 12 LPM

Factory Tested

#### L14-M

INTERMEDIATE Max flow rate: 106 CFM / 3000 LPM Min flow rate: 1.41 CFM / 40 LPM

#### L15-M

**STANDARD** Max flow rate: Min flow rate: 1.59 CFM / 45 LPM

#### **L17-M**

**HEAVY DUTY** Max flow rate: 318 CFM / 9000 LPM Min flow rate: 1.76 CFM / 50 LPM







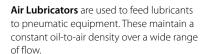
Ambient 0-60°C (32-140°F)



**CONFORMS TO** ISO 6301-1



Chemical Industry



The Groz L1-M series Lubricators are Fog/ MicroMist type, upto 50' pipe runs These have a Die Cast Aluminum Head & bowl. The head is fitted with Oil drop indicator, Oil drop controller & Oil filling plug

Metal Bowl makes them good for use in Chemical plants, Paint shops, pharmaceutical plants, foundries etc. where ambient air may contain chemicals, such as acetone, benzene, kerosene, gasoline, carbon tetrachloride, ethylene dichloride, toluene etc. These are also recommended for high pressure applications and for use with air compressor systems using fire resistant lubricants

#### **WETTED COMPONENTS:**

Aluminum, Bronze, Steel, Stainless Steel & Nitrile

NOTE: Designed for best performance with 32 grade oil

#### **ACCESSORIES** available









Groz Part#	Ordering #	Groz Part #	Ordering #	Description	Port Size		Rate x)**	Bow	l Size	Heig	ht (h)	Widt	:h (w)
BS	SP .	NP	Т		Size	CFM	LPM	Oz.	ml	in	mm	in	mm
L1361-M	60230	L1391-M	60280	Miniature	1/4"	48	1350	0.68	20	5.31	135	1.57	40
* L1461-M	60235	L1491-M	60285	Intermediate	1/4″	58	1650	3.38	100	8.07	205	2.16	55
L1462-M	60231	L1492-M	60281	Intermediate	3/8"	106	3000	3.38	100	8.07	205	2.16	55
L1563-M	60232	L1593-M	60282	Standard	1/2″	200	5650	6.8	200	9.45	240	2.75	70
L1764-M	60233	L1794-M	60283	Heavy Duty	3/4"	255	7200	6.8	200	11	280	3.54	90
L1765-M	60234	L1795-M	60284	Heavy Duty	1″	318	9000	6.8	200	11	280	3.54	90

<sup>\*\*</sup> Inlet Pressure 90 PSI (6 BAR) and Pressure Drop 7.5 PSI (0.5 BAR)



## **Filter Regulator Combination**

filtre regulateur combinaison filtro regulador combinado

de filter regler kombination

#### FRC13

**MINIATURE** Max flow rate: 20 CFM / 550 LPM Threaded Type Steel **Bowl Guard** 

#### FRC14

INTERMEDIATE Max flow rate: 77 CFM / 2200 LPM

Bayonet Type Steel Bowl Guard, Regulator with in-built Venturi for Flow Compensation

#### FRC15

**STANDARD** Max flow rate:

106 CFM / 3000 LPM Bayonet Type Steel Bowl Guard, Regulator with in-built Venturi for Flow Compensation

#### FRC17

**HEAVY DUTY** 

Max flow rate: 193 CFM / 5500 LPM

Bayonet Type Steel Bowl Guard, Regulator with in-built Venturi for Flow Compensation











145 PSI (10 BAR) Factory Tested

The Filter-Regulator

**Combination** is one of the most popular air preparation units. The 2 are assembled together to form a single unit

Air Filter is used to separate dust, dirt, moisture & other contaminants from compressed air

Filter has a Die Cast Aluminum body, polycarbonate bowl with a steel bowl guard & a high performance Sintered Bronze Filtering element

Filter is designed with a Separator & Shield for efficient moisture separation. It is combined with a Regulator which maintains a steady outlet pressure, unaffected by variations/fluctuations in the inlet pressure

**Regulators** have a Non Raising "Press to Lock" adjusting knob for locking at any set pressure .Regulators work on a Diaphragm operated, relieving type mechanism with pressure compensated by balanced poppet

#### **WETTED COMPONENTS:**

Aluminum, Bronze, Brass, Steel, Acetal, Polycarbonate, Stainless Steel & Nitrile



port for mounting pressure gauge

bowl guard

#### WARNING!

Polycarbonate bowls may get damaged and possibly fail if exposed to synthetic oils, thinner, solvents, trichloroethylene, kerosene or other aromatic hydrocarbons

#### **STANDARD** configuration

- Pressure adjustment range of 7 - 145 PSI (0.5 - 10 BAR)
- 40 micron filtering element
- Press Type Manual Drain with Night Time Drain feature which automatically drains off the bowl once the compressed air supply to the filter is switched off

#### **OPTIONAL** configuration

Custom built include the following Pressure Adjustment ranges:

- 3 28 PSI (0.2 2 BAR)
- 3 58 PSI (0.2 4 BAR)
- 8 100 PSI (0.5 7 BAR) Custom options for Filtering element:
- 5 Micron 25 micron
- 50 Micron 100 Micron

Drain Type options include an Internal & an External Auto drain



#### **ACCESSORIES** available







MODULAR MOUNTING KIT, p22

PRESSURE GAUGE, p23



Groz Part#	Ordering #	Groz Part #	Ordering #	Description	Port Size		Rate x)**	Pressure Gauge	Bow	l Size	Heig	ht (h)	Widt	:h (w)
BS	P	NP	T		Jize	CFM	LPM	Port Size	Oz.	ml	in	mm	in	mm
FRC136034-S	60300	FRC139034-S	60350	Miniature	1/8"	14	400	1/8″	0.3	9	6.69	170	1.57	40
FRC136134-S	60301	FRC139134-S	60351	Miniature	1/4"	20	550	1/8″	0.3	9	6.69	170	1.57	40
FRC146134-S	60302	FRC149134-S	60352	Intermediate	1/4"	63	1800	1/8"	1.08	32	8.66	220	2.17	55
FRC146234-S	60303	FRC149234-S	60353	Intermediate	3/8"	77	2200	1/8″	1.08	32	8.66	220	2.17	55
FRC156334-S	60304	FRC159334-S	60354	Standard	1/2"	106	3000	1/8″	1.5	44	11.02	280	2.76	70
FRC176434-S	60305	FRC179434-S	60355	Heavy Duty	3/4"	149	4250	1/4″	5.6	165	14.6	370	3.54	90
FRC176534-S	60306	FRC179534-S	60356	Heavy Duty	1"	193	5500	1/4"	5.6	165	14.6	370	3.54	90

<sup>\*\*</sup> Inlet Pressure 105 PSI (7BAR). Set Pressure 90 PSI (6 BAR). Pressure Drop 17 PSI (1 BAR)

## **Filter Regulator Combination - Metal Bowl**

filtre regulateur combinaison - cuvette en métal filtro regulador combinado - tazón del metal

de filter regler kombination - metallschüssel

## FRC13-M

MINIATURE Max flow rate: 20 CFM / 550 LPM

## FRC14-M

INTERMEDIATE Max flow rate: 77 CFM / 2200 LPM In-built Venturi for Flow Compensation

#### FRC15-M

**STANDARD** Max flow rate: 106 CFM / 3000 LPM In-built Venturi for Flow Compensation

#### FRC17-M

HEAVY DUTY Max flow rate: 193 CFM / 5500 LPM In-built Venturi for Flow Compensation













Chemical Industry

Factory Tested

The Filter-Regulator Combination

is one of the most popular air Preparation units. The 2 are assembled together to form a single unit. Air Filter is used to separate dust, dirt, moisture & other contaminants from compressed air. Combined with a Regulator which maintains a steady outlet pressure, unaffected by variations/fluctuations in the inlet pressure

Filter has a Die Cast Aluminum body & bowl, fitted with a high performance Sintered Bronze Filtering element. Metal Bowl makes these good for use in Chemical plants, Paint shops, pharmaceutical plants, foundry etc. where ambient air may

contain chemicals, such as acetone, benzene, kerosene, gasoline, carbon tetrachloride, ethylene dichloride, toluene etc. Also recommended for high pressure applications and for use with air compressor systems using fire resistant lubricants

Regulators have a Non Raising "Press to Lock" adjusting knob for locking at any set pressure. Regulators work on a Diaphragm operated, relieving type mechanism with pressure compensated by balanced poppet

#### **WETTED COMPONENTS:**

Aluminum, Bronze, Steel, Acetal, Brass, Stainless Steel & Nitrile

# port for mounting pressure gauge metal bowl FRC136134-MS > manual drain

#### **STANDARD** configuration

- Pressure adjustment range of 7 145 PSI (0.5 - 10 BAR)
- · 40 micron filtering element
- Press Type Manual Drain with Night Time Drain feature which automatically drains off the bowl once the compressed air supply to the filter is switched off

#### **OPTIONAL** configurations

Custom built include the following Pressure Adjustment ranges:

- 3 28 PSI (0.2 2 BAR)
- 3 58 PSI (0.2 4 BAR)
- 8 100 PSI (0.5 7 BAR)

Custom options for Filtering element:

- 5 Micron 25 micron
- 50 Micron 100 Micron

Drain Type options include an Internal & an External Auto drain

#### **ACCESSORIES** available







MODULAR MOUNTING KIT, p22

PRESSURE GAUGE, p23



Groz Part#	Ordering #	Groz Part#	Ordering #	Description	Port Size	Flow (Ma		Pressure Gauge	Bow	l Size	Heig	ht (h)	Widt	h (w)
BSP		NP	Т		3126	CFM	LPM	Port Size	Oz.	ml	in	mm	in	mm
FRC136134-MS	60330	FRC139134-MS	60380	Miniature	1/4″	20	550	1/8″	0.3	9	6.77	172	1.57	40
* FRC146134-MS	60329	FRC149134-MS	60379	Intermediate	1/4"	63	1800	1/8"	2.17	64	10.43	265	2.17	55
FRC146234-MS	60331	FRC149234-MS	60381	Intermediate	3/8"	77	2200	1/8"	2.17	64	10.43	265	2.17	55
FRC156334-MS	60332	FRC159334-MS	60382	Standard	1/2"	106	3000	1/8″	3.0	90	13	330	2.76	70
FRC176434-MS	60333	FRC179434-MS	60383	Heavy Duty	3/4"	149	4250	1/4″	5.6	165	14.6	370	3.54	90
FRC176534-MS	60334	FRC179534-MS	60384	Heavy Duty	1″	193	5500	1/4″	5.6	165	14.6	370	3.54	90

<sup>\*\*</sup> Inlet Pressure 105 PSI (7BAR). Set Pressure 90 PSI (6 BAR). Pressure Drop 17 PSI (1 BAR)

\* New

## **Filter-Regulator &** Lubricator - 2 pc

filtre regulateur combinaison - graisseur - 2 morceaux filtro regulador combinado - lubricador - 2 pedazos de filter regler kombination - schmiervorrichtung - 2 stücke

#### FRCLM-13

MINIATURE Max flow rate: 18 CFM / 500 LPM Min flow rate: Threaded type steel bowl guard

#### FRCLM-14

INTERMEDIATE Max flow rate: Min flow rate: 1.41 CFM / 40 LPM

Bayonet type steel bowl guard, Regulator with in-built Venturi for Flow Compensation

#### FRCLM-15

STANDARD Max flow rate:

Min flow rate: 1.59 CFM / 45 LPM

Bayonet type steel bowl guard, Regulator with in-built Venturi for Flow Compensation

LAR

#### FRCLM-17

**HEAVY DUTY** 

Max flow rate:

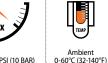
Min flow rate:

1.76 CFM / 50 LPM

Bayonet type steel bowl guard, Regulator with in-built Venturi for Flow Compensation













Space saving 2 pc Modular Filter-Regulator Combination & Lubricator is by far the most popular Air Preparation unit.

#### The Filter-Regular Combination &

**Lubricator** are attached in series using spacers & piping adapters, which makes the 2 components easily removable / mountable without disturbing the pipe line. Come complete with a wall mounting bracket

Air Filter is used to separate dust, dirt, moisture & other contaminants from compressed air. Filter has a Die Cast Aluminum body, polycarbonate bowl with a steel bowl guard & a high performance Sintered Bronze Filtering element. Filter is designed with a Separator & shield for efficient moisture separation.

#### **WARNING!**

Polycarbonate bowls may get damaged and possibly fail if exposed to synthetic oils, thinner, solvents, trichloroethylene, kerosene or other aromatic hydrocarbons

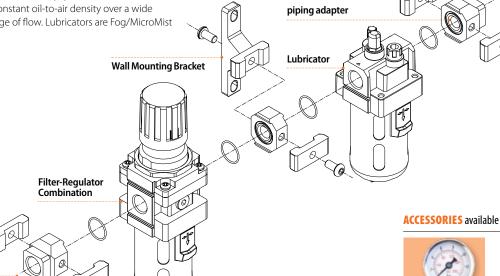
Piping Adapter

**Regulator** maintains a steady outlet pressure, unaffected by variations/ fluctuations in the inlet pressure. Regulators have a Non Raising "Press to Lock" adjusting knob for locking at any set pressure. Regulators work on a Diaphragm operated. relieving type mechanism with pressure compensated by balanced poppet

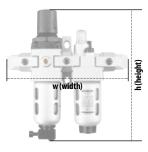
**Air Lubricators** are used to feed lubricants to pneumatic equipments. These maintain a constant oil-to-air density over a wide range of flow. Lubricators are Fog/MicroMist type, upto 50' pipe runs. Designed for best performance with 32 grade oil. These have a Die Cast Aluminum Head, polycarbonate bowl with a steel bowl guard. The head is fitted with Oil drop indicator, Oil drop controller & Oil filling plug

#### WETTED COMPONENTS:

Aluminum, Bronze, Brass, Steel, Acetal, Polycarbonate, Stainless Steel & Nitrile



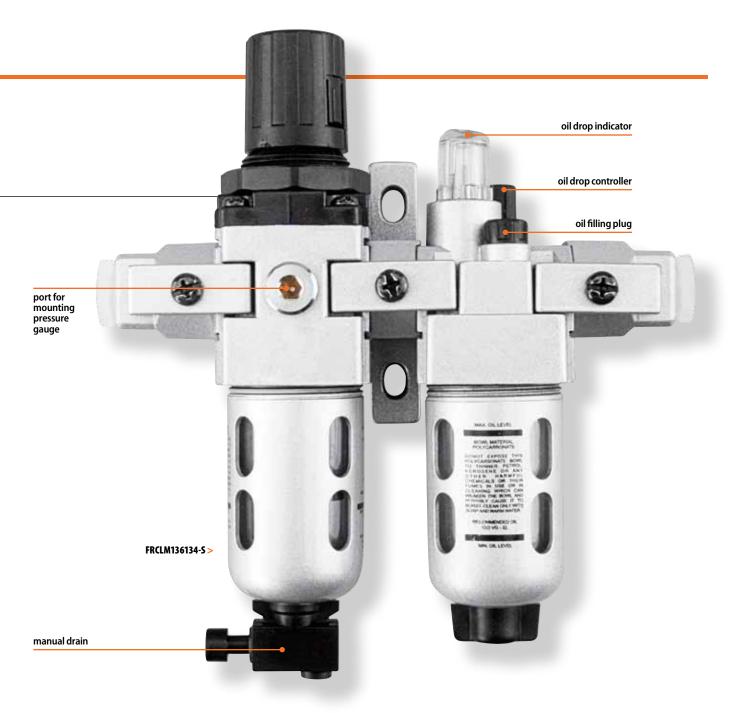
PRESSURE GAUGE, p22



Groz Part #	Ordering #	Groz Part #	Ordering #	Description	Port Size		Rate x)**	Pressure Gauge	Bowl Size	e (Filter)	Bowl (Lubri		
BSP		NPT			Jize	CFM	LPM	(Port Size)	Oz.	ml	Oz.	ml	
FRCLM136134-S	60400	FRCLM139134-S	60450	Miniature	1/4"	18	500	1/8"	0.3	9	0.68	20	
* FRCLM146134-S	60420	FRCLM149134-S	60470	Intermediate	1/4"	53	1500	1/8"	1.08	32	1.93	57	
FRCLM146234-S	60401	FRCLM149234-S	60451	Intermediate	3/8″	63	1800	1/8″	1.08	32	1.93	57	
FRCLM156334-S	60402	FRCLM159334-S	60452	Standard	1/2″	99	2800	1/8″	1.5	44	5.17	152	
FRCLM176434-S	60403	FRCLM179434-S	60453	Heavy Duty	3/4″	123	3500	1/4″	5.6	165	6.80	200	
FRCLM176534-S	60404	FRCLM179534-S	60454	Heavy Duty	1″	140	4000	1/4"	5.6	165	6.80	200	

\* New

<sup>\*\*</sup> Inlet Pressure 105 PSI (7BAR). Set Pressure 90 PSI (6 BAR). Pressure Drop 17 PSI (1 BAR)



Heigl	ht (h)	Widt	h (w)	
in	mm	in	mm	
6.69	170	5.75	146	
8.66	220	7.17	182	
8.66	220	7.17	182	
11.02	280	8.66	220	
14.6	370	10.63	270	
14.6	370	10.63	270	

#### **STANDARD** configuration

- · Pressure adjustment range of 7 - 145 PSI (0.5 - 10 BAR)
- 40 micron filtering element
- Press Type Manual Drain with Night Time Drain feature which automatically drains off the bowl once the compressed air supply to the filter is switched off

#### **OPTIONAL** configurations

Custom built include the following Pressure Adjustment ranges:

- 3 28 PSI (0.2 2 BAR)
- 3 58 PSI (0.2 4 BAR)
- 8 100 PSI (0.5 7 BAR)

Custom options for Filtering element:

- 5 Micron 25 micron
- 50 Micron 100 Micron

Drain Type options include an Internal & an External Auto drain



## Filter-Regulator-Lubricator - 2 pc , Metal Bowl

fr filtre regulateur combinaison - graisseur - 2 morceaux - cuvette en métal filtro regulador combinado - lubricador - 2 pedazos - tazón del metal de filter regler kombination - schmiervorrichtung - 2 stücke - metallbehälter

#### FRCLM13-M

MINIATURE
Max flow rate:
18 CFM / 500 LPM
Min flow rate:
0.42 CFM / 12 LPM

#### FRCLM14-M

INTERMEDIATE
Max flow rate:
63 CFM / 1800 LPM
Min flow rate:
1.41 CFM / 40 LPM
Regulator with in-built Venturi

for Flow Compensation

#### FRCLM15-M

STANDARD
Max flow rate:
99 CFM / 2800 LPM
Min flow rate:
1.59 CFM / 45 LPM
Regulator with in-built Venturi
for Flow Compensation

#### FRCLM17-M

HEAVY DUTY
Max flow rate:
140 CFM / 4000 LPM
Min flow rate:
1.76 CFM / 50 LPM
Regulator with in-built Venturi
for Flow Compensation



Factory Tested













Chemical Industry

Space saving 2 pc Modular Filter-Regulator Combination & Lubricator is by far the most popular Air Preparation unit. The Filter-Regular Combination & Lubricator are attached in series using spacers & piping adapters, which makes the individual components easily removable / mountable without disturbing the pipe line. These come complete with wall mounting bracket

Air Filter is used to separate dust, dirt, moisture & other contaminants from compressed air. Filter has a Die Cast Aluminum body & bowl with a high performance Sintered Bronze Filtering element. Filter is designed with a Separator & shield for efficient moisture separation.

**Regulator** maintains a steady outlet pressure, unaffected by variations/fluctuations in the inlet pressure. Regulators have a Non Raising "Press to Lock" adjusting knob for locking at any set pressure. Regulators work on a Diaphragm operated, relieving type mechanism with pressure compensated by balanced poppet

**Air Lubricators** are used to feed lubricants to pneumatic equipments. These maintain a constant oil-to-air density over a wide range of flow. Lubricators are Fog/MicroMist type, upto 50′ pipe runs.

Designed for best performance with 32 grade oil. These have a Die Cast Aluminum

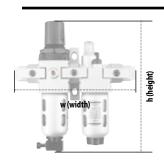
head & bowl .The head is fitted with Oil Drop Indicator, Oil drop controller & Oil Filling Plug.

Metal Bowl makes these good for use in Chemical plants, Paint shops, pharmaceutical plants, foundries etc. where ambient air may contain chemicals, such as acetone, benzene, kerosene, gasoline, carbon tetrachloride, ethylene dichloride, toluene etc.

Also recommended for high pressure applications and for use with air compressor systems using fire resistant lubricants.

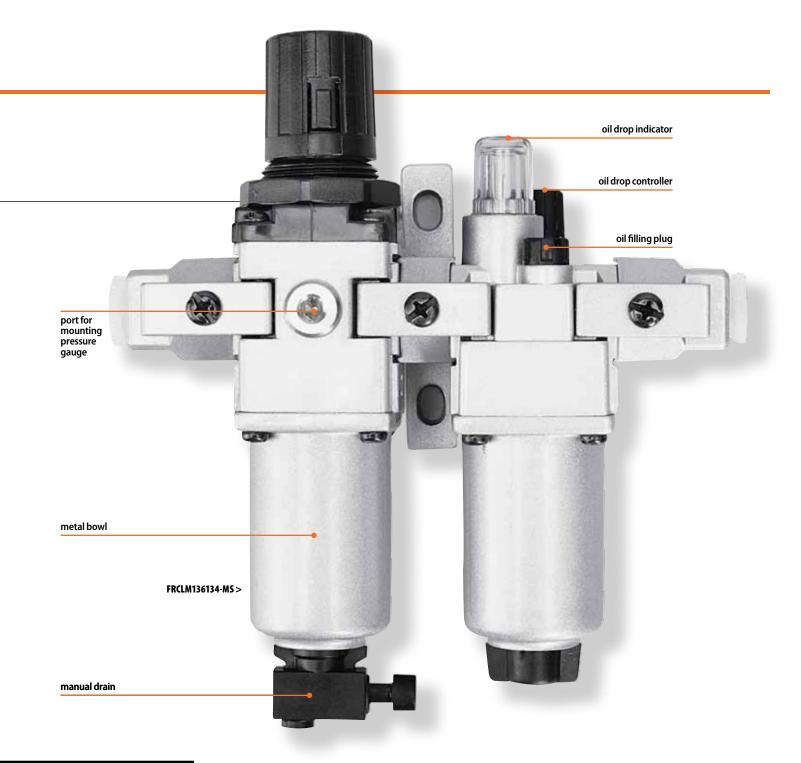
#### **WETTED COMPONENTS:**

Aluminum, Bronze, Steel, Acetal, Brass, Stainless Steel & Nitrile



Groz Part #	Ordering #	Groz Part #	Ordering #	Description	Port Size	Flow Rat	e (Max)**	Pressure Gauge	Bowl Siz	e (Filter)	Bowl (Lubric	
BSP		NPT			3126	CFM	LPM	Port Size	Oz.	ml	Oz.	ml
FRCLM136134-MS	60430	FRCLM139134-MS	60480	Miniature	1/4″	18	500	1/8″	0.3	9	0.68	20
* FRCLM146134-MS	60429	FRCLM149134-MS	60479	Intermediate	1/4″	53	1500	1/8"	2.15	64	3.38	100
FRCLM146234-MS	60431	FRCLM149234-MS	60481	Intermediate	3/8″	63	1800	1/8"	2.15	64	3.38	100
FRCLM156334-MS	60432	FRCLM159334-MS	60482	Standard	1/2"	99	2800	1/8"	3.0	90	6.8	200
FRCLM176434-MS	60433	FRCLM179434-MS	60483	Heavy Duty	3/4"	123	3500	1/4"	5.6	165	6.8	200
FRCLM176534-MS	60434	FRCLM179534-MS	60484	Heavy Duty	1″	140	4000	1/4″	5.6	165	6.8	200

<sup>\*\*</sup> Inlet Pressure 105 PSI (7BAR). Set Pressure 90 PSI (6 BAR). Pressure Drop 17 PSI (1 BAR)



	Heigl	ht (h)	Widt	h (w)
	in	mm	in	mm
	6.69	170	5.75	146
	10.43	265	7.17	182
	10.43	265	7.17	182
	13	330	8.66	220
•	14.5	370	10.63	270
	14.5	370	10.63	270

#### **STANDARD** configuration

- · Pressure adjustment range of 7 - 145 PSI
- (0.5 10 BAR)
- 40 micron filtering element
- Press Type Manual Drain with *Night Time* Drain feature which automatically drains off the bowl once the compressed air supply to the filter is switched off

#### **OPTIONAL** configurations

Custom built include the following Pressure Adjustment ranges:

- 3 28 PSI (0.2 2 BAR)
- 3 58 PSI (0.2 4 BAR)
- 8 100 PSI (0.5 7 BAR)

Custom options for Filtering element:

- 5 Micron 25 micron
- 50 Micron 100 Micron

Drain Type options include an Internal & an External Auto drain

#### **ACCESSORIES** available



## Filter-Regulator-Lubricator - 3 pc

fr filtre regulateur graisseur - 3 morceaux sp filtro regulador lubricador - 3 pedazos de filter regler schmiervorrichtung - 3 stücke

#### FRLM-13

MINIATURE
Max flow rate:
18 CFM / 500 LPM
Min flow rate:
0.42 CFM / 12 LPM
Threaded Type Steel
Bowl Guard

#### FRLM-14

INTERMEDIATE
Max flow rate:
71 CFM / 2000 LPM
Min flow rate:
1.41 CFM / 40 LPM
Bayonet Type Steel Bowl Guard,
Regulator with in-built Venturi

for Flow Compensation

#### FRLM-15 STANDARD

Max flow rate:
106 CFM / 3000 LPM
Min flow rate:
1.59 CFM / 45 LPM
Bayonet Type Steel Bowl Guard,
Regulator with in-built Venturi
for Flow Compensation

LAR

#### FRLM-17

HEAVY DUTY
Max flow rate:
175 CFM / 5000 LPM
Min flow rate:
1.76 CFM / 50 LPM
Bayonet Type Steel Bowl
Guard, Regulator with in-built
Venturi for Flow Compensation



Factory Tested





0-60°C (32-140°F)





The Filter-Regulator-Lubricator is a 3 pc assembly of all 3 individual components. The 3 components are attached in series using spacers & piping adapters, which makes the individual components easily removable / mountable without disturbing the pipe line. Comes complete with wall mounting bracket

**Air Filter** is used to separate dust, dirt, moisture & other contaminants from compressed air. Filter has a Die Cast Aluminum body, polycarbonate bowl with a steel bowl guard & a high performance Sintered Bronze Filtering element. Filter is designed with a Separator & shield for efficient moisture separation

Regulator maintains a steady outlet pressure, unaffected by variations/ fluctuations in the inlet pressure. Regulators have a Non Raising "Press to Lock" adjusting knob for locking at any set pressure. Regulators work on a Diaphragm operated, relieving type mechanism with pressure compensated by balanced poppet

**Air Lubricators** are used to feed lubricants to pneumatic equipments. These maintain a constant oil-to-air density over a wide range of flow. Lubricators are Fog/MicroMist type, upto 50' pipe runs. Designed for best performance with 32 grade oil. These have

wall mounting bracket

a Die Cast Aluminum Head, polycarbonate bowl with a steel bowl guard. The head is fitted with Oil Drop Indicator, Oil drop controller & Oil Filling Plug

#### WETTED COMPONENTS:

Aluminum, Bronze, Brass, Steel, Acetal,
Polycarbonate, Stainless Steel & Nitrile

wall mounting bracket

lubricator

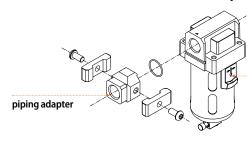
WARNING!

Polycarbonate bowls may get damaged and possibly fail if exposed to synthetic oils, thinner, solvents, trichloroethylene, kerosene or other aromatic hydrocarbons

**ACCESSORIES** available

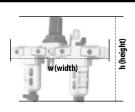


PRESSURE GAUGE, p23



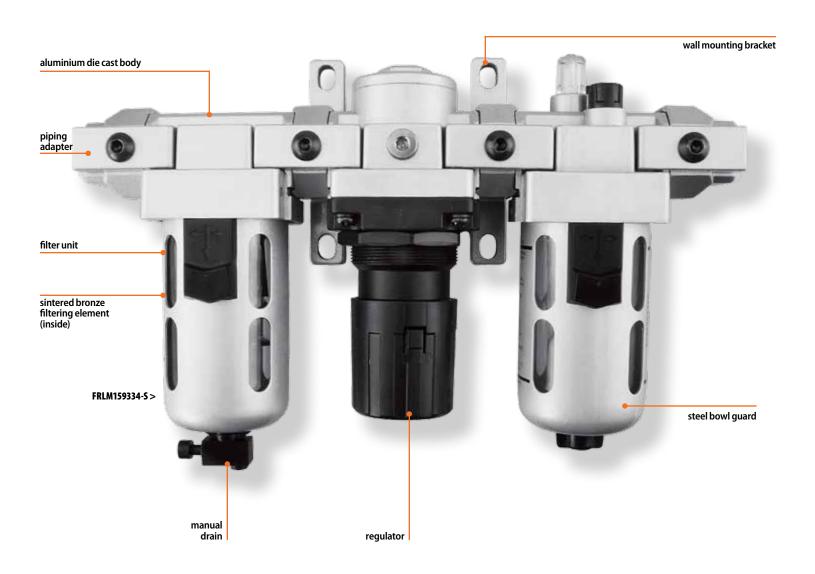


regulator



Groz Part #	Ordering #	Groz Part #	Ordering#	Description	Port Size	Flow Rat	e (Max)**	Pressure Gauge	Bowl Siz	e (Filter)	Bow (Lubri	l Size cator)
BSP		NPT			Jize	CFM	LPM	(Port Size)	Oz.	ml	Oz.	ml
FRLM136134-S	60500	FRLM139134-S	60550	Miniature	1/4"	18	500	1/8"	0.3	9	0.68	20
* FRLM146134-S	60520	FRLM149134-S	60570	Intermediate	1/4″	46	1300	1/8″	1.08	32	1.93	57
FRLM146234-S	60501	FRLM149234-S	60551	Intermediate	3/8"	71	2000	1/8″	1.08	32	1.93	57
FRLM156334-S	60502	FRLM159334-S	60552	Standard	1/2"	106	3000	1/8″	1.5	44	5.17	152
FRLM176434-S	60503	FRLM179434-S	60553	Heavy Duty	3/4″	123	3500	1/4″	5.6	165	6.8	200
FRLM176534-S	60504	FRLM179534-S	60554	Heavy Duty	1″	175	5000	1/4″	5.6	165	6.8	200

<sup>\*\*</sup> Inlet Pressure 105 PSI (7BAR). Set Pressure 90 PSI (6 BAR). Pressure Drop 17 PSI (1 BAR)



Heigl	ht (h)	Widt	h (w)
in	mm	in	mm
6.69	170	7.87	200
8.66	220	9.84	250
8.66	220	9.84	250
11.02	280	12.00	305
14.6	370	14.6	370
14.6	370	14.6	370
	<b>.</b>	<b></b>	<b>.</b>

#### **STANDARD** configuration

- · Pressure adjustment range of 7 - 145 PSI (0.5 - 10 BAR)
- 40 micron filtering element
- Press Type Manual Drain with Night Time Drain feature which automatically drains off the bowl once the compressed air supply to the filter is switched off

#### **OPTIONAL** configuration

Custom built include the following Pressure Adjustment ranges:

- 3 28 PSI (0.2 2 BAR)
- 3 58 PSI (0.2 4 BAR)
- 8 100 PSI (0.5 7 BAR)
- Custom options for Filtering element:
- 5 Micron 25 micron
- 50 Micron 100 Micron

Drain Type options include an Internal & an External Auto drain



## Filter-Regulator-Lubricator, 3 pc, Metal Bowl

fr filtre regulateur graisseur - 3 morceaux -Cuvette en métal sp filtro regulador lubricador - 3 pedazos -tazón del metal de filter regler schmiervorrichtung - 3 stücke - metallbehälter

## FRLM13-M

MINIATURE
Max flow rate:
18 CFM / 500 LPM
Min flow rate:
0.42 CFM / 12 LPM

#### FRLM14-M

INTERMEDIATE
Max flow rate:
71 CFM / 2000 LPM
Min flow rate:
1.41 CFM / 40 LPM
Regulator with in-built Venturi

for Flow Compensation

#### FRLM15-M

STANDARD
Max flow rate:
106 CFM / 3000 LPM
Min flow rate:
1.59 CFM / 45 LPM
Regulator with in-built Venturi
for Flow Compensation

#### FRLM17-M

HEAVY DUTY
Max flow rate:
175 CFM / 5000 LPM

Min flow rate:
1.76 CFM / 50 LPM
Regulator with in-built Venturi for Flow Compensation



Factory Tested











Chemical Industry

The Filter-Regulator-Lubricator is a 3 pc assembly of all 3 individual components. The 3 components are attached in series using spacers & piping adapters, which makes the individual components easily removable / mountable without disturbing the pipe line. These come complete with wall mounting brackets

**Air Filter** is used to separate dust, dirt, moisture & other contaminants from compressed air. Filter has a Die Cast Aluminum body & bowl with a high performance Sintered Bronze Filtering element. Filter is designed with a Separator & shield for efficient moisture separation

Regulator maintains a steady outlet pressure, unaffected by variations/ fluctuations in the inlet pressure. Regulators have a Non Raising "Press to Lock" adjusting knob for locking at any set pressure. Regulators work on a Diaphragm operated, relieving type mechanism with pressure compensated by balanced poppet

**Air Lubricators** are used to feed lubricants to pneumatic equipments. These maintain a constant oil-to-air density over a wide range of flow. Lubricators are Fog/MicroMist type, upto 50' pipe runs. Designed for best performance with 32 grade oil. These have a Die Cast Aluminum

head & bowl .The head is fitted with Oil Drop Indicator, Oil drop controller & Oil Filling Plug.

Metal Bowl makes them good for use in Chemical plants, Paint shops, pharmaceutical plants, foundry etc. where ambient air may contain chemicals, such as acetone, benzene, kerosene, gasoline, carbon tetrachloride, ethylene dichloride, toluene etc. These are also recommended for high pressure applications and for use with air compressor systems using fire resistant lubricants

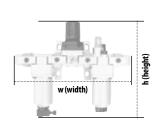
#### **WETTED COMPONENTS:**

Aluminum, Bronze, Brass, Steel, Acetal, Brass, Stainless Steel & Nitrile

#### **ACCESSORIES** available



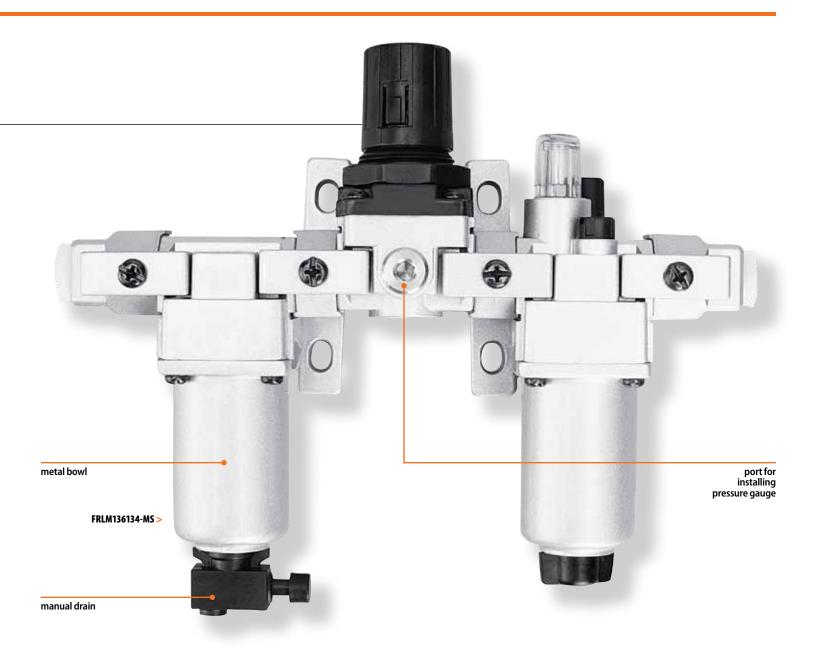
PRESSURE GAUGE, p23



Groz Part #	Ordering #	Groz Part #	Ordering #	Description	Port Size	Flow Rat	e (Max)**	Pressure Gauge	Bowl Siz	e (Filter)		l Size icator)	
BSP		NPT			Jize	CFM	LPM	Port Size	Oz.	ml	Oz.	ml	_
FRLM136134-MS	60530	FRLM139134-MS	60580	Miniature	1/4"	18	500	1/8"	0.30	9	0.68	20	
* FRLM146134-MS	60529	FRLM149134-MS	60579	Intermediate	1/4″	46	1300	1/8″	2.15	64	3.38	100	
FRLM146234-MS	60531	FRLM149234-MS	60581	Intermediate	3/8"	71	2000	1/8″	2.15	64	3.38	100	
FRLM156334-MS	60532	FRLM159334-MS	60582	Standard	1/2"	106	3000	1/8″	3.0	90	6.8	200	
FRLM176434-MS	60533	FRLM179434-MS	60583	Heavy Duty	3/4"	123	3500	1/4″	5.6	165	6.8	200	
FRLM176534-MS	60534	FRLM179534-MS	60584	Heavy Duty	1″	175	5000	1/4″	5.6	165	6.8	200	

\* New

<sup>\*\*</sup> Inlet Pressure 105 PSI (7BAR). Set Pressure 90 PSI (6 BAR). Pressure Drop 17 PSI (1 BAR)



Heigl	ht (h)	Widt	h (w)
in	mm	in	mm
6.69	170	7.87	200
10.43	265	9.84	250
10.43	265	9.84	250
13.0	330	12.00	305
14.6	370	14.6	370
14.6	370	14.6	370

#### **STANDARD** configuration

- · Pressure adjustment range of 7 - 145 PSI
- (0.5 10 BAR)
- 40 micron filtering element
- Press Type Manual Drain with *Night Time* Drain feature which automatically drains off the bowl once the compressed air supply to the filter is switched off

#### **OPTIONAL** configurations

Custom built include the following Pressure Adjustment ranges:

- 3 28 PSI (0.2 2 BAR)
- 3 58 PSI (0.2 4 BAR)
- 8 100 PSI (0.5 7 BAR)

Custom options for Filtering element:

- 5 Micron 25 micron
- 50 Micron 100 Micron

Drain Type options include an Internal & an External Auto drain

## **Automatic Line Drain**













Condensate in compressed air causes corrosion in the pneumatic components which severely affect the function of the pneumatic system / any machinery using compressed air

In order to prevent this & give system an increased life, Automatic Line Drain is fitted to the main airline piping to drain the condensate as and when collected. Automatic Line Drain is not a moisture separator. It drains only the condensate collected.

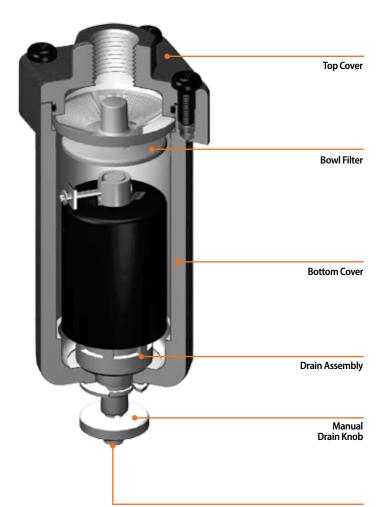
These units can be used with great advantage in pneumatic lines in foundries, textile mills, industrial shop floor, painting, pneumatic lines in process industries, etc.

Float type, hence no electrical connections required. When the condensate level increases, the float moves up & drains the condensate automatically Cast Aluminum Body Includes Manual Drain option Provision for drain tube connection, to take the condensate away from the unit, to keep the working area clean.

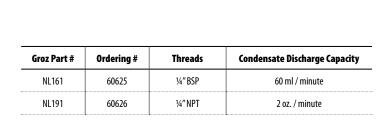
#### WETTED COMPONENTS

Aluminum, Brass, Acetal, Stainless Steel & Nitrile





Connector (for drain tube)





accessoires sp accesorios de zubehör

#### **SPACER**

Spacer Blocks are used to connect 2 components in modular assemblies. These are Aluminum Die cast & have sealing rings fitted into them on both sides. The Sealing rings make a leak proof connection, without the need to have a threaded fitment

Groz Part #	Ordering #	For use with Model Series
diuz rait#	ordering #	ror use with model series
A2S01	60650	Miniature - F13, FS13, L13, R13, FRC13
A2S02	60651	Intermediate - F14, FS14, L14, R14, FRC14
A2S03	60652	Standard - F15, FS15, L15, R15, FRC15
A2S04	60653	Heavy Duty - F17, FS17, L17, R17, FRC17



#### **SPACER WITH PORT FOR AIR OUTLET**



It is installed before the lubricator. This allows taking out non lubricated air where required

Groz Part#	Ordering #	For use with Model Series
A2T01	60654	Miniature - F13, FS13, L13, R13, FRC13
A2T02	60655	Intermediate - F14, FS14, L14, R14, FRC14
A2T03	60656	Standard - F15, FS15, L15, R15, FRC15



#### **PIPING ADAPTERS**

Air Preparation components such as Individual Regulators, Filters, Lubricators or assemblies such as Filter-Regulator Assembly or a Filter Regulator Lubricator Assembly always have an IN port & an OUT port. These ports are threaded & air pipe lines can be fitted directly into them. However by doing so, if any component needs to be removed for maintenance, repair etc., one would need to open up the complete air line. This can be avoided by using Piping Adapters. A piping adapter has a threaded end on one side & sealing rings on the other. The adapters are fitted on both the IN port & the OUT port & the Air line would be screwed into them. The threaded end of the adapter faces the air line & the other end with the sealing ring makes the seal with the component. Piping adapter has an Aluminum die cast construction

Gr	oz Part #	Ordering #	Groz Part # Ordering #		Threads	For use with Model Series				
	BS	SP	NI	PT	illeaus	Tot use with model series				
*	A2P11	60670	A2P15	60672	1/8"	For use with Miniature - F13, FS13, L13, R13, FRC13				
	A2P01	60660	A2P04	60665	1/4"	For use with Miniature - F13, FS13, L13, R13, FRC13				
*	A2P12	60671	A2P16	60673	1/4"	For use with Intermediate - F14, FS14, L14, R14, FRC14				
	A2P02	60661	A2P05	60666	3/8"	For use with Intermediate - F14, FS14, L14, R14, FRC14				
	A2P03	60662	A2P06	60667	1/2"	For use with Standard - F15, FS15, L15, R15, FRC15				
	A2P07	60663	A2P09	60668	3/4"	For use with Heavy Duty - F17, FS17, L17, R17, FRC17				
	A2P08	60664	A2P10	60669	1"	For use with Heavy Duty - F17, FS17, L17, R17, FRC18				



#### **WALL MOUNTING BRACKET**

Wall Mounting Bracket is a special type of Spacer Block which is 'T' shaped & has holes to mount on the wall. These connect 2 components in modular assemblies & make them wall mountable.

Aluminum Die Cast these have sealing rings fitted into them on both sides. The sealing rings make a leak proof connection, without the need to have a threaded fitment

Groz Part#	Ordering # For use with Model Series		
A2W01	60640	Miniature - F13, FS13, L13, R13, FRC13	
A2W02	60641	Intermediate - F14, FS14, L14, R14, FRC14	
A2W03	60642	Standard - F15, FS15, L15, R15, FRC15	
A2W04	60643	Heavy Duty - F17, FS17, L17, R17, FRC17	



#### WALL MOUNTING BRACKET WITH PORT FOR AIR OUTLET

Installed before the lubricator. This allows taking out non lubricated air where required

Groz Part # Ordering #		For use with Model Series
A2V01	60657	Miniature - F13, FS13, L13, R13, FRC13
A2V02	60658	Intermediate - F14, FS14, L14, R14, FRC14
A2V03	60659	Standard - F15, FS15, L15, R15, FRC15



#### KIT FOR MODULAR CONSTRUCTION

For Modular construction from individual components, order accessories as given below

Combination Type	Nr. Of Wall Mounting Brackets	Nr. Of Piping Adapters
2 pc Filter Regulator Combination- Lubricator (FRCLM)	1	2
3 pc Filter-Regulator-Lubricator Combination (FRLM)	2	2



#### **MOUNTING CLAMP FOR INDIVIDUAL FILTERS & LUBRICATORS**

These are steel clamps in powder coated finish, used to mount individual Filters & Lubricators. Both Filter & Lubricator units have threaded holes on the head casting into which the clamp fits

Groz Part#	Ordering #	For use with Model Series
A2C31	60610	Miniature - F13, FS13, L13
A2C32	60611	Intermediate - F14, FS14, L14
A2C33	60612	Standard - F15, FS15, L15
A2C34	60613	Heavy Duty - F17, FS17, L17





#### **MOUNTING CLAMP FOR REGULATORS & FILTER REGULATOR COMBINATIONS**

These clamps are made out of steel in powder coated finish. The clamp has a hole into which the regulator fits in & is secured by the nut provided in the Regulator itself

Groz Part#	Ordering #	For use with Model Series
A2C01	60600	Miniature - R13, FRC13
A2C02	60601	Intermediate - R14, FRC14
A2C03	60602	Standard - R15, FRC15
A2C04	60603	Heavy Duty - R17, FRC17





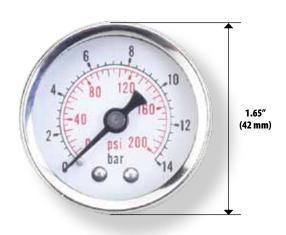
#### **PRESSURE GAUGES**

For use with Regulators for setting Output Pressure. These are graduated both in BARS & PSI with a max. Reading of 200PSI/14 BAR. Pressure Gauge is graduated in intervals of 5 PSI/0.20 BAR and is accurate to within 5%

These have male threads on the centre back & fit female threads on the Regulator

Gauge has a steel casing with clear glass lens and internal components made from Brass

Groz Part #	Ordering #	Groz Part #	Ordering #	Threads	For use with Model Series
BS	BSPT		PT		
A2G02	60630	A2G05	60635	1/8"	Miniature, Intermediate & Standard
A2G08	60631	A2G14	60636	1/4″	Heavy Duty



#### **AUTO DRAIN VALVE- EXTERNAL**

As a standard, all Groz Filters have a Manual Drain valve fitted on them. This however can be changed with an Automatic Drain Valve, fitted external to the bowl

The Auto Drain Valve drains the condensate water automatically. In addition to automatic draining, there is also provision in the valve for manual drain off

Unlike an electrical Auto Drain valve, these float type auto Drain Valve operates only when the condensate is collected & drains only the condensate.

Groz Part #	Ordering #	For use with Model Series
A2D01	60620	Miniature- F13, FS13
A2D02	60621	Intermediate- F14, FS14
A2D03	60622	Standard - F15, FS15
A2D04	60623	Heavy Duty - F17 , FS17



#### REPLACEMENT SINTERED **BRONZE FILTER ELEMENTS**



Groz Part#	Ordering #	Description	Filter rating in Microns	Fits
F582002	60680	Miniature	40	F13 , FRC13 , FRCLM13 & FLLM13 Series
F582022	60681	Intermediate	40	F14, FRCLM14 & FRLM14 Series
F582025	60682	Intermediate	40	FRC14 Series
F582042	60683	Standard	40	F15, FRC15, FRCLM15 & FRLM15 Series
F582051	60684	Heavy Duty	40	F17, FRC17, FRCLM17 & FRLM17 Series
F582000	60685	Miniature	5	F13 , FRC13 , FRCLM13 & FLLM13 Series
F582020	60686	Intermediate	5	F14, FRCLM14 & FRLM14 Series
F582026	60687	Intermediate	5	FRC14 Series
F582040	60688	Standard	5	F15, FRC15, FRCLM15 & FRLM15 Series
F582049	60689	Heavy Duty	5	F17, FRC17, FRCLM17 & FRLM17 Series



# Air Line Accessories - Air Blow Guns

fr soufflettes progressives sp pistola de soplado de luft-schlag-gewehr











High Quality, Industrial use Air Blow gun with gun body made from Polyacetal (POM)

Non Corroding Aluminum nozzle

4-1/2" (114 mm) long nozzle to access hard to reach areas

Brass threaded Air Inlet ensures that threads do not shear with repeated use

Variable speed trigger for full control of amount of air dispensed

Silent operation

Confirms to OSHA STD 1-13.1 for safety



Groz Part #	Ordering #	ring# Threads Noise Level at 100 PSI		Blowing For	ce at 100 PSI	Air Consumption at 100 PSI
dioz rait #	Ordering #	iliteaus	Noise Level at 100 F31	kgs	lbs	All Collsumption at 100 F31
ABG/30/1-4F/BSP	61080	1/4" BSP (F)	80 db	0.472	1.0	19.06 CFM
ABG/30/1-4F/N	61090	1/4" NPT (F)	80 db	0.472	1.0	19.06 CFM

pistolet de soufflage professionnelle pistola de aire profesional de luft blasen gun professionelle

#### ABG1

Air Blow Gun

#### ABG2

Safety Air Blow Gun with Snub Nose

#### ABG3

Safety Air Blow Gun with Stainless Steel Nozzle

#### ABG4

Safety Air Blow Gun with Stainless Steel Nozzle & Polyurethane Silencer









Valid for ABG2, ABG3 & ABG4

Factory Tested

Impact & Weather resistant Nylon Body Corrosion resistant Stainless Steel Nozzle & parts

Drop Resistant construction

Handle with Soft rubber grip for convenience in continuous use

Ergonomic design of the gun helps eliminate the risk of Carpel Tunnel

Brass threaded Air Inlet ensures that threads do not shear with repeated use Variable speed trigger for full control of amount of air dispensed Silent operation with noise level under 80 db. Confirms to OSHA STD 1910-95 (b) for max. noise level when used with air with 6 BAR (90 PSI) pressure

Max. Blowing Force with minimal air consumption reduces energy cost, saving money each time the gun is used

Confirms to OSHA STD 1-13.1 for safety & are classified as safety Blow guns\* \*Except ABG/1

#### **STANDARD** configuration







#### **ACCESSORIES** available



PS/ABG/3 61050 4" (100mm) dia Protective shield for ABG/3 series Air Blow Guns



NZL/RT1/ABG/3 61053 Rubber Tip 1/2" (12.7 mm) for blowing out lines



NZL/RT2/ABG/3 61054 Rubber Tip 1" (25 mm) for blowing out lines



NZL/RT3/ABG/3 61055 Rubber Tip 1-3/8" (35 mm) for blowing out lines



NZL/SIL/ABG/3 61051 Silencer Nozzle with Soft Rubber Tip



NZL/VEN/ABG/3 61052 Venturi Nozzle for Turbo **Charging Output** 

Groz Part#	Ordering #	Groz Part #	Ordering #	Noise Level	Blowing For	ce at 100 PSI	Air Consumption
BSP TI	HREADS	NPT T	HREADS	at 100 PSI*	at 100 PSI* kgs lbs.		
STANDARD REACH							
ABG/1/1-4F/BSP	61000	ABG/1/1-4F/N	61010	77db	0.26	0.57	9.53 CFM
ABG/2/1-4F/BSP	61001	ABG/2/1-4F/N	61011	77db	0.38	0.83	15.89 CFM
ABG/3/1-4F/BSP	61002	ABG/3/1-4F/N	61012	80 db	0.35	0.76	15.18 CFM
ABG/4/1-4F/BSP	61003	ABG/4/1-4F/N	61013	75 db	0.31	0.68	13.42 CFM





Groz Part #	Ordering #	Groz Part #	Ordering #	Noise Level	Blowing For	ce at 100 PSI	Air Consumption	
BSP TI	HREADS	NPT THREADS		at 100 PSI* kgs lbs.		lbs.	at 100 PSI	
EXTENDED REACH								
♦ ABG/3A/1-4F/BSP	61020	ABG/3A/1-4F/N	61030	80db	0.32	0.70	15.26 CFM	
◆ ABG/3B/1-4F/BSP	61021	ABG/3B/1-4F/N	61031	77db	0.26	0.57	12.46 CFM	
♦ ABG/3C/1-4F/BSP	61022	ABG/3C/1-4F/N	61032	74db	0.21	0.47	9.96 CFM	

Made to Order



## **Air Line Accessories -**7 Piece Air Blow Gun Kit

jeu de 7 pièces pistolet de soufflage juego de pistola de aire - 7 piezas de 7 stück luftblasen gun set











Operating Pressure 50-235 PSI (3.5-16 BAR) Factory Tested

World's # 1 Professional Air Blow Gun with 6 Interchangeable accessories for unlimited shop applications!

Air Blow Gun (ABG/3) has an Impact Resistant Nylon Body with threaded ¼" (F) Brass Inlet & Rust proof 4-1/2" (114 mm) Stainless Steel Nozzle.

Gun has a soft rubber grip & allows full control on the amount of air blowing out.

Silent operation with Noise level under 80 db, the gun is OSHA ok for noise.

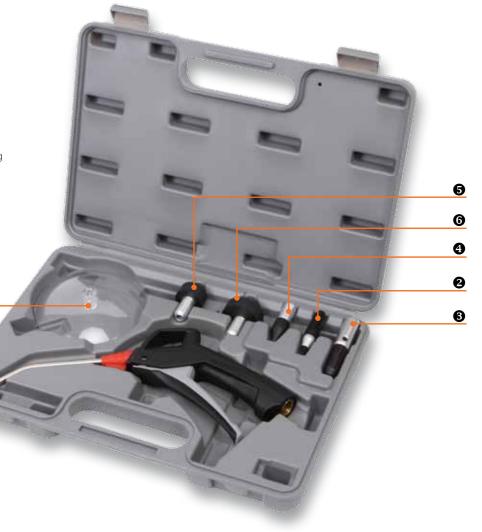
Vent in the tip prevents pressure from exceeding 30 PSI if tip becomes blocked, making the gun OSHA ok as a safety Blow gun

#### Interchangeable accessories include:

- 1 4" (100 mm) Protective Shield for safety in use from flying chips etc.
- 2 Soft Rubber Star Tip Nozzle for use on delicate
- 3 Venturi Nozzle turbo charges output. Great for blowing out bondo dust, drying off & washing parts fast
- 4 ½" (12.7 mm) Rubber Tip for blowing out lines &
- **5** 1" (25 mm) Rubber Tip for blowing out lines & cavities

0

6 1-3/8" (35 mm) Rubber tip for blowing out lines & cavities



Groz Part #	Ordering #	Inlet Threads
KIT/ABG3/7ST/BSP	61070	1/4" BSP (F)
KIT/ABG3/7ST/N	61075	1/4" NPT (F)





250 PSI (17 BAR)

For instantaneous coupling of grease guns, impact wrenches, paint sprayers & other air operated equipment

Positive action locking mechanism ensures that coupler cannot be detached accidentally

Unique Coupler design allows coupler & nipple to be joined together without the need to pull back sleeve

Extra large air passage ensures greater air flow

Automatic air check valve shuts off air instantly when uncoupled, providing leak proof seal

Extra long stem of AN/1-4/N nipple & coupler body assures long service life & easy connections under severe operating conditions

Heavy Duty Steel construction

Threaded 1/4" NPT

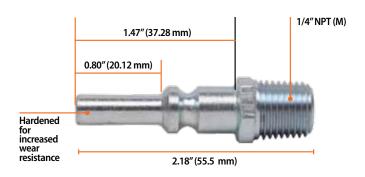
Max. Operating Pressure : 250 PSI (17 BAR)

Groz Part#	Ordering #	Туре	Threads
QCA/1-4F/N	60700	Air Coupler	1/4" NPT (F)
AN/1-4/N	60701	Nipple for Air Coupler	1/4" NPT (M)
AN/1-4F/N	60705	Nipple for Air Coupler	1/4" NPT (F)
IV/PGG	60702	Universal Nipple	1/4" NPT (M)

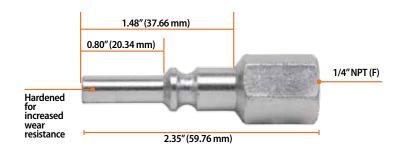
#### **AIR COUPLER - QCA/1-4F/N**



#### **MALE NIPPLE FOR AIR COUPLER - AN/1-4/N**



#### **FEMALE NIPPLE FOR AIR COUPLER - AN/1-4F/N**



#### **UNIVERSAL AIR NIPPLE - IV/PGG**





All Steel Construction

Used to connect Air Control Units to Air Inlet port on equipment

Threaded 1/4"(M) x 1/4"(M)



Groz Part#	Ordering #	Threads
NPL/KP71/K63	60704	1/4" BSP (M)
NPL/RP/N	60703	1/4" NPT (M)





< NPL/KP71/K63

#### ISO 9001:2008

The familiar three standards ISO 9001, ISO 9002 and ISO 9003 have been integrated into the new ISO 9001:2008.

The norms that are followed are:

- Customer Focus
- Leadership
- Involvement of People
- Process Approach
- System Approach
- Continual improvement
- Fact based Decisionmaking
- Mutually beneficial Customer - Supplier Relationships



#### ISO 14001: 2004

Groz is fully committed to protecting the environment and we are continually looking for new ways to improve it. Our aim is to prevent pollution, reduce emissions, promote recycling and hence cut down on waste. We manage our activities to achieve all of this through our EMS certified to the ISO 14001: 2004 environment management system.

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#### **OHSAS** 18001:2007

Health and Safety of the workforce is a prime responsibility of the company and the management takes pride in providing the best working environment, formulating and implementing health and safety policies that make for a happy workplace. All policies are continually monitored, reviewed and updated and all our systems are traceable to OHSAS 18001:2007



Page

## **Standard Packaging**

Groz Part#		Page#	Description	Net Wt. each	Nr. of pcs per
BSP Threads	NPTThreads	1		(Kgs)	Master carton
Air Regulators	•				
R13604	R13904	2	Miniature	0.160	150
R13614	R13914	2	Miniature	0.160	150
R14614	R14914	2	Intermediate	0.440	40
R14624	R14924	2	Intermediate	0.440	40
R15634	R15934	2	Standard	0.900	40
R17644	R17944	2	Heavy Duty	1.46	20
R17654	R17954	2	Heavy Duty	1.46	20
Air Filters	•	•			
F13603-S	F13903-S	4	Miniature	0.220	100
F13613-S	F13913-S	4	Miniature	0.220	100
F14613-S	F14913-S	4	Intermediate	0.360	60
F14623-S	F14923-S	4	Intermediate	0.360	60
F15633-S	F15933-S	4	Standard	0.640	30
F17643-S	F17943-S	4	Heavy Duty	1.500	20
F17653-S	F17953-S	4	Heavy Duty	1.500	20
Air Filters - Meta	al Bowl				
F13613-MS	F13913-MS	5	Miniature	0.200	60
F14613-MS	F14913-MS	5	Intermediate	0.480	60
F14623-MS	F14923-MS	5	Intermediate	0.480	60
F15633-MS	F15933-MS	5	Standard	0.940	30
F17643-MS	F17943-MS	5	Heavy Duty	2.150	20
F17653-MS	F17953-MS	5	Heavy Duty	2.150	20
Coalescing Filte	rs (0.10 microns)	,		,	
FS13603-S	FS13903-S	6	Miniature	0.320	100
FS13613-S	FS13913-S	6	Miniature	0.220	100
FS14613-S	FS14913-S	6	Intermediate	0.360	60
FS14623-S	FS14923-S	6	Intermediate	0.360	60
FS15633-S	FS15933-S	6	Standard	0.640	30
Coalescing Filte	rs (0.01 microns)				
FS13602-S	FS13902-S	7	Miniature	0.220	100
FS13612-S	FS13912-S	7	Miniature	0.220	100
FS14612-S	FS14912-S	7	Intermediate	0.360	60
FS14622-S	FS14922-S	7	Intermediate	0.360	60
FS15632-S	FS15932-S	7	Standard	0.640	30
FS17642-S	FS17942-S	7	Heavy Duty	1.500	20
FS17652-S	FS17952-S	7	Heavy Duty	1.500	20

Groz Part#		Page#	Description	Net Wt.	Nr. of pcs per
BSP Threads	NPT Threads			(Kgs)	Master carton
Air Lubricators					
L1360	L1390	8	Miniature	0.220	100
L1361	L1391	8	Miniature	0.220	100
L1461	L1491	8	Intermediate	0.340	60
L1462	L1492	8	Intermediate	0.340	60
L1563	L1593	8	Standard	0.640	30
L1764	L1794	8	Heavy Duty	1.480	20
L1765	L1795	8	Heavy Duty	1.480	20
Air Lubricators -	Metal Bowl				
L1361-M	L1391-M	9	Miniature	0.200	100
L1461-M	L1491-M	9	Intermediate	0.480	40
L1462-M	L1492-M	9	Intermediate	0.480	40
L1563-M	L1593-M	9	Standard	0.900	30
L1764-M	L1794-M	9	Heavy Duty	2.150	15
L1765-M	L1795-M	9	Heavy Duty	2.150	15
Filter Regulator	Combination		,		
FRC136034-S	FRC139034-S	10	Miniature	0.320	60
FRC136134-S	FRC139134-S	10	Miniature	0.320	60
FRC146134-S	FRC149134-S	10	Intermediate	0.640	40
FRC146234-S	FRC149234-S	10	Intermediate	0.640	40
FRC156334-S	FRC159334-S	10	Standard	1.360	20
FRC176434-S	FRC179434-S	10	Heavy Duty	2.340	10
FRC176534-S	FRC179534-S	10	Heavy Duty	2.340	10
Filter Regulator	Combination - Me	etal Bowl			
FRC136134-MS	FRC139134-MS	11	Miniature	0.320	40
FRC146134-MS	FRC149134-MS	11	Intermediate	0.760	40
FRC146234-MS	FRC149234-MS	11	Intermediate	0.760	40
FRC156334-MS	FRC159334-MS	11	Standard	1.640	15
FRC176434-MS	FRC179434-MS	11	Heavy Duty	2.380	10
FRC176534-MS	FRC179534-MS	11	Heavy Duty	2.380	10
Filter - Regulato	r & Lubricator - 2 p	oiece			
FRCLM136134-S	FRCLM139134-S	12	Miniature	0.740	40
FRCLM146134-S	FRCLM149134-S	12	Intermediate	1.340	20
FRCLM146234-S	FRCLM149234-S	12	Intermediate	1.340	20
FRCLM156334-S	FRCLM159334-S	12	Standard	2.500	10
FRCLM176434-S	FRCLM179434-S	12	Heavy Duty	4.520	4
FRCLM176534-S	FRCLM179534-S	12	Heavy Duty	4.520	4

Groz Part#		Page#	Description	Net Wt. each	Nr. of
BSP Threads	NPT Threads			(Kgs)	pcs per Master carton
Filter - Regulator &	Lubricator - 2 piec	e, Metal	Bowl		
FRCLM136134-MS	FRCLM139134-MS	14	Miniature	0.680	30
FRCLM146134-MS	FRCLM149134-MS	14	Intermediate	1.400	10
FRCLM146234-MS	FRCLM149234-MS	14	Intermediate	1.400	10
FRCLM156334-MS	FRCLM159334-MS	14	Standard	2.700	10
FRCLM176434-MS	FRCLM179434-MS	14	Heavy Duty	4.950	4
FRCLM176534-MS	FRCLM179534-MS	14	Heavy Duty	4.950	4
Filter-Regulator-L	ubricator - 3 piece	•			
FRLM136134-S	FRLM139134-S	16	Miniature	0.820	30
FRLM146134-S	FRLM149134-S	16	Intermediate	1.540	15
FRLM146234-S	FRLM149234-S	16	intermediate	1.540	15
FRLM156334-S	FRLM159334-S	16	Standard	2.900	10
FRLM176434-S	FRLM179434-S	16	Heavy Duty	5.580	5
FRLM176534-S	FRLM179534-S	16	Heavy Duty	5.580	5
Filter-Regulator-L	ubricator - 3 piece,	Metal Bo	owl		
FRLM136134-MS	FRLM139134-MS	18	Miniature	0.840	30
FRLM146134-MS	FRLM149134-MS	18	Intermediate	1.380	10
FRLM146234-MS	FRLM149234-MS	18	Intermediate	1.380	10
FRLM156334-MS	FRLM159334-MS	18	Standard	2.420	6
FRLM176434-MS	FRLM179434-MS	18	Heavy Duty	5.750	5
FRLM176534-MS	FRLM179534-MS	18	Heavy Duty	5.750	5
Automatic Line Dr	ain				
NL161	NL191	20		0.260	60
Air Blow Guns	•				
ABG/30/1-4F/BSP	ABG/30/1-4F/N	25		0.100	60
Air Blow Guns Pro	fessional	•			
ABG/1/1-4F/BSP	ABG/1/1-4F/N	26		0.120	120
ABG/2/1-4F/BSP	ABG/2/1-4F/N	26		0.120	120
ABG/3/1-4F/BSP	ABG/3/1-4F/N	26		0.140	60
ABG/4/1-4F/BSP	ABG/4/1-4F/N	26		0.140	60
Air Blow Guns Ext	ended Reach				
ABG/3A/1-4F/BSP	ABG/3A/1-4F/N	27		0.165	60
ABG/3B/1-4F/BSP	ABG/3B/1-4F/N	27		0.185	60
ABG/3C/1-4F/BSP	ABG/3C/1-4F/N	27		0.255	60
7 Piece Air Blow G	un Kit				
KIT/ABG3/7ST/BSP	KIT/ABG3/7ST/N	28		0.642	38



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