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RTi

Compressed Air Solutions Guide

CA PROPOSITION 65 WARNING



WARNING: Cancer and
Reproductive Harm
www.P65Warnings.ca.gov/product



(800) 521-9200



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STEP 1: Identify your problem

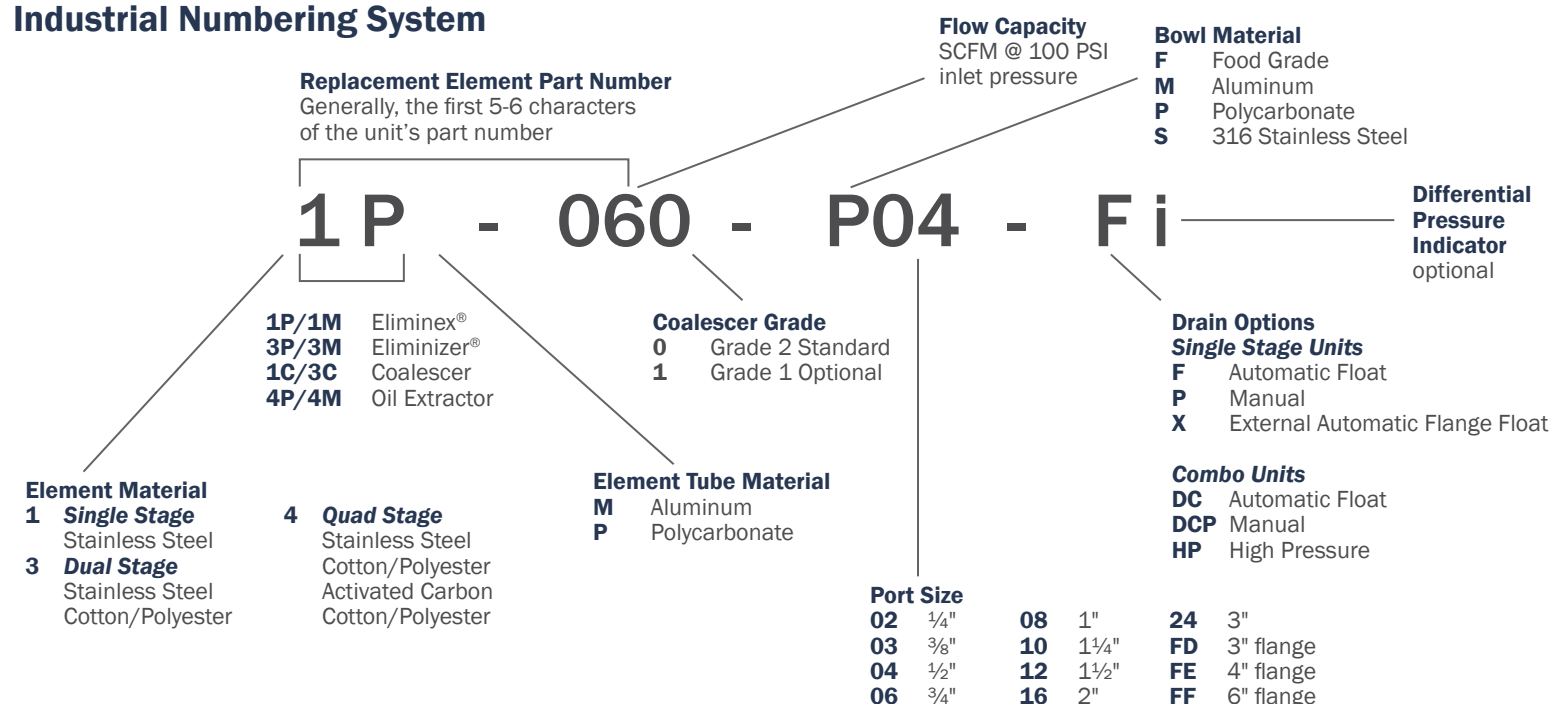
Are you experiencing any of these contamination problems?

- Valve, cylinder, or actuator malfunctions
- Swollen or cracked seals
- Rust or scale in pipes
- Air tool failures
- Poor surface finish with plasma and laser cutters

Here's how components are affected by contamination problems:

Device	Effects		
	Water (Moisture)	Particulate	Oil
Piping	• rust & scale	• component failure	• component failure
Air Cylinders	• reduced component life • lubricant wash-out • component failure	• poor sealing of piston rod • reduced service life	• reduced component life
Air Valves	• sticking spools • coil failure • lubricant wash-out	• seal failure • clogged mufflers	• reduced component life • swollen seals • valve failure
Pneumatic Positioners	• IP & EP failure • valve failure • positioning problems	• clogged orifices • equipment malfunction	• seal failure
Spraying Equipment	• poor curing • loss of gloss • poor color match	• increased cutting & buffing	• fish eyes • poor quality finish
Air Tools	• internal corrosion • lubricant wash-out	• internal wear • seal failure	• swollen seals
Air Motors, Air Bearings	• catastrophic failure • reduced efficiency	• clogged orifices • reduced efficiency	• inaccurate measurements • instrumentation error
Laser Cutters, Plasma Cutters	• tip failure • poor surface finish	• clogged orifices	• tip failure • mirror coating

Industrial Numbering System



STEP 2: Identify your contaminate

System	Filtration/ Dew Point	Contamination				
		Moisture		Particulate (Dirt)	Oil	Odor
		Water	Dew Point Suppression			
Compressor Room/Mainline						
Eliminex®	3.0 micron	•		•		
Coalescer	0.01 micron			•	•	
Eliminex® Combo	0.01 micron	•		•	•	
Refrigerated Dryers	38°F		•			
Point-of-use Applications						
Eliminizer®	1.0 micron	•		•		
Coalescer	0.01 micron			•	•	
Eliminizer® Combo	0.01 micron	•		•	•	
Oil Extractor Combo	0.01 micron	•		•	•	•
Desiccant Dryers	-40°F		•			
High Pressure Eliminizer®	1.0 micron	•		•		
High Pressure Coalescer	0.01 micron			•	•	
High Pressure Eliminizer® Combo	0.01 micron	•		•	•	
Food Grade Eliminizer®	1.0 micron	•		•		
Food Grade Coalescer	0.01 micron			•	•	
Food Grade Oil Extractor Combo	0.01 micron	•		•	•	•
Stainless Steel Eliminizer®	1.0 micron	•		•		
Stainless Steel Coalescer	0.01 micron			•	•	
Stainless Steel Oil Extractor Combo	0.01 micron	•		•	•	•

Inverse-Flow® Technology Explained

1 Centrifugal Spinning

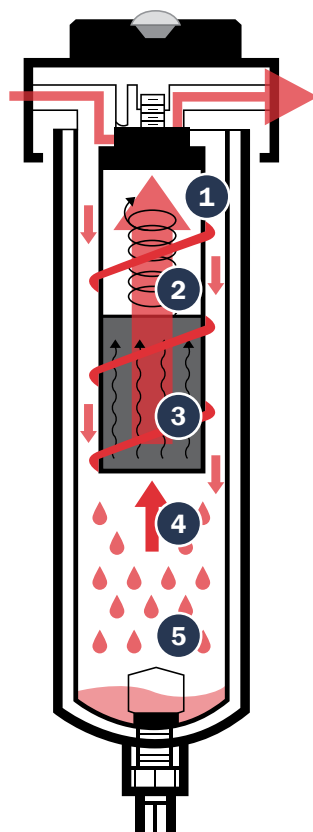
Water, dirt, and oil contaminants are spun in a downward circular motion through the air. The spinning action forces heavy particles outward, towards the drain.

2 Final Filter Media

Our elements are composed of interwoven cotton, polyester, and stainless steel. The filter captures excess sub-micron water droplets. Cotton holds the water particles and allows them to re-enter the air stream as harmless vapor. *Filtration to 1.0 micron.*

3 Stainless Steel Element

Pre-cleaned air enters a filter media composed of finely interwoven stainless steel mesh wires. The striated surface efficiently holds aerosols and liquid droplets, which then fall into the drain area. *Filtration to 3.0 micron.*



4 Inverse-Flow®

RTi's Inverse-Flow® Technology process creates a condition where the air, spinning in a downward circular motion, changes direction 180° and begins to flow vertically upward. The contaminants are not capable of reversing direction and must separate from the air flow. This process prevents re-entrainment of contamination, which can occur in other filter systems.

5 Bowl and Drain Options

Bowls—metal or polycarbonate with metal guards. Drains—automatic float, manual, or electronic options.

STEP 3: Determine your placement

Compressor Room					
Application	Receiving Tank	Mainline Filtration			Refrigerated Dryer
Product Name	Condensate Drain	Eliminex® (A)	Coalescer (B)	Eliminex® Combo (C)	RD Cycling Dryer (D)
Filtration Level	Oil-water Separators	3 micron	0.01 micron	0.01 micron	—
Air Flow (SCFM)	—	10 - 5500	10 - 3000	10 - 3000	2 - 2000
Max. Air Temp. (poly-metal)	—	125 - 175 °F	125 - 175 °F	125 - 175 °F	158 °F
ISO 8573 Performance Level	—	Class 3 Particulate	Class 1 Particulate/Oil	Class 1 Particulate/Oil	Class 4 Dew Point
Dew Point Suppression	—	—	—	—	38 °F
Contamination Removal	—	Water/Particulate	Particulate/Oil	Water, Particulate/Oil	Water/Dew Point Suppression

Point-of-use Application								
Application	Critical/Sensitive Equipment Filtration			Oil/Odor	Desiccant Dryer	High Pressure & Gas Filter	Food Processing	Caustic/Corrosive Environment
Product Name	Eliminizer® (E)	Coalescer (F)	Eliminizer® Combo (G)	Oil Extractor Combo (H)	E4000/DRAD* (I)	High Pressure (J, K, L)	Food Grade (M, N, O)	316 Stainless Steel (P, Q, R)
Filtration Level	1 micron	0.01 micron	0.01 micron	0.003 PPM	0.01 micron	1 - 0.01 micron	1 - 0.003 PPM	1 - 0.003 PPM
Air Flow (SCFM)	2 - 150	2 - 250	2 - 150	2 - 150	2 - 25	2 - 1200	2 - 150	2 - 150
Max. Air Temp. (poly-metal)	125 - 175 °F	125 - 175 °F	125 - 175 °F	125 °F	125 °F	175 °F	125 °F	175 °F
ISO 8573 Performance Level	Class 2 Particulate	Class 1 Particulate/Oil	Class 1 Particulate/Oil	Class 1 Particulate/Oil	See page 5	See page 5	See page 5	See page 5
Dew Point Suppression	—	—	—	—	-40 - 100 °F	—	—	—
Contamination Removal	Water/Particulate	Particulate/Oil	Water, Particulate/Oil	See page 5	See page 5	See page 5	See page 5	See page 5

*Larger flow sizes available. Call factory for more info.

Helpful hints for obtaining the best results with RTi products

Normal compressor systems should be designed as follows:

Compressor > Aftercooler > Eliminex® Combo > Dryer > Receiving Tank > Plant Air Lines.

Quick rule when figuring SCFM: 4 SCFM per 1 compressor HP.

Always drain the liquids from the compressor, filters, and refrigerated dryer into an oil/water separator to comply with EPA requirements.

Have at least 25-50 feet of piping between a compressor without an “aftercooler” and the dryer to reduce the air temperature before entering the dryer. For every 20 °F temperature reduction, 50% of the water vapor changes into a condensate.

When sizing a refrigerated dryer, its capacity is based on an inlet air temperature of 100 °F. Higher inlet temperatures will result in lower flow capacities or a higher dew point.

Always place a coalescer before a refrigerated dryer; an Eliminex® Combo is the best choice. Place the RTi unit before a regulator. Pressure rating for poly bowls is 150 PSI, pressure rating for metal bowls without indicator is 200 PSI.

The Eliminex® and Eliminizer® units can be used for gross decontamination applications because of their patented Inverse-Flow® Technology when general purpose filters have failed.

The Eliminex® (1P/1M), Eliminizer® (3P), or Oil Extractor (4P) elements are always placed before the Coalescer (3C).

Synthetic compressor oils can damage poly bowls and indicators - use metal bowls without indicators with these oils.

Plastic piping is a problem. The plastic acts as an insulator and keeps air from cooling and forming condensation making filtration difficult.

For point-of-use applications, place the RTi unit as close as possible to the item being protected. No pre-filtration is required before the RTi Eliminizer® units.

Lubricator bowls that are “milky” have water in the oil and need an Eliminizer® before them.

For download-able pdfs, visit our website at www.driair.com

Eliminex® (A)	Coalescer (B)	Eliminex® Combo (C)	Refrigerated Dryer (D)	Eliminizer® (E)	Coalescer (F)
					
Eliminizer® Combo (G)	Oil Extractor Combo (H)	Non-regenerative E4000-4 (I)	Regenerative DRAD System (I)	HP Eliminizer® (J)	HP Coalescer (K)
		 Class 1: Particulate/Oil Class 2: Press. Dew Pt. Removes: Water, Water Vapor, Particulate/Oil	 Class 1: Particulate/Oil Class 2: Press. Dew Pt. Removes: Water, Water Vapor, Particulate/Oil	 Class 2: Particulate Removes: Water and Particulate	 Class 1: Particulate/Oil Removes: Particulate and Oil
HP Eliminizer® Combo (L)	Food Grade Eliminizer® (M)	Food Grade Coalescer (N)	Food Grade Oil Extractor Combo (O)	Stainless Steel Eliminizer® (P)	Stainless Steel Coalescer (Q)
 Class 1: Particulate/Oil Removes: Water, Particulate, and Oil	 Class 2: Particulate Removes: Water and Particulate	 Class 1: Particulate/Oil Removes: Particulate and Oil	 Class 1: Particulate/Oil Removes: Water, Particulate, Oil, and Odor	 Class 2: Particulate Removes: Water and Particulate*	 Class 1: Particulate/Oil Removes: Particulate and Oil*
Stainless Steel Oil Extractor Combo (R)	Drains and Oil/Water Separators		Replacement Elements		
 Class 1: Particulate/Oil Removes: Water, Particulate, Oil, and Odor*	ED-2-4: Electric drain with timer: ¼" - ½" NPT	RTi-OWS120: 125 SCFM Oil/Water Separator	 1P/1M: Eliminex®/Combo Washable Stainless Steel Mesh 3 micron/larger	 4P: Oil Extractor/Combo Stainless Steel Mesh, Woven Cotton & Activated Carbon 1.0 micron/larger	
	RTi-MGD: Compact zero loss magnetic drain	RTi-OWS300: 300 SCFM Oil/Water Separator			
	N32-95-XD8: ½" External automatic drain	RTi-OWS750: 750 SCFM Oil/Water Separator	 3P: Eliminizer®/Combo Stainless Steel Mesh & Woven Cotton/Poly Blend 1.0 micron/larger	 3C: Coalescer/Combo Long lasting borosilicate material 0.01 micron/larger	
					

* - Denotes 316 Stainless NACE Compliant

STEP 4: Select your product

Compressor Room						
	Receiving Tank	Mainline Filtration			Refrigerated Dryer	
SCFM	Drains	Eliminex®	Coalescer	Eliminex® Combo	Model Number - Cycling	Model Number - Non-Cycling
20	ED-2-4, RTi-MGD	1P-060-M04-F	3C-060-M04-F	1P-060-M04-DC	RD 0025	RDNC 0020
30	ED-2-4, RTi-MGD	1P-060-M04-F	3C-060-M04-F	1P-060-M04-DC	RD 0035	RDNC 0035
50	ED-2-4, RTi-MGD	1P-120-M06-F	3C-090-M06-F	1P-090-M06-DC	RD 0050	RDNC 0050
75	ED-2-4, RTi-MGD	1P-175-M08-F	3C-150-M08-F	1P-150-M08-DC	RD 0075	RDNC 0075
100	ED-2-4, RTi-MGD	1P-175-M08-F	3C-150-M08-F	1P-150-M08-DC	RD 0100	RDNC 0100
125	ED-2-4, RTi-MGD	1P-175-M08-F	3C-150-M08-F	1P-150-M08-DC	RD 0125	RDNC 0150
150	ED-2-4, RTi-MGD	1P-250-M08-F	3C-250-M08-F	1P-250-M08-DC	RD 0160	-
175	ED-2-4, RTi-MGD	1P-250-M08-F	3C-250-M08-F	1P-250-M08-DC	RD 0200-2	-
200	ED-2-4, RTi-MGD	1P-250-M08-F	3C-250-M08-F	1P-250-M08-DC	RD 0250-2	-
250	ED-2-4, RTi-MGD	1M-300-M10-F	3C-300-M10-F	1P-300-M10-DC	Note: Larger SCFM refrigerated and twin tower desiccant dryers are available. Contact factory for more information. *300, 400, 700 all available in 1¼", 1½", 2" NPT *1200 series only available in 3" NPT *MFD - 3" Flange *MFE - 4" Flange	
325	ED-2-4, RTi-MGD	1M-400-M12-F	3C-400-M12-F	1P-400-M12-DC		
400	ED-2-4, RTi-MGD	1M-700-M12-F	3C-700-M12-F	1P-700-M12-DC		
700	ED-2-4, RTi-MGD	1M-1200-M24-F	3C-1200-M24-F	1P-1200-M24-DC		
1200	ED-2-4, RTi-MGD	1M-1200-M24-F	3C-1200-M24-F	1P-1200-M24-DC		
1900	ED-2-4, RTi-MGD	1M-2500-MFD-X 1M-2500-MFE-X	3C-1900-MFD-X 3C-1900-MFE-X	1P-1900-MFD-DC 1P-1900-MFE-DC		

Point-of-use Application						
SCFM	NPT (in.)	Eliminizer®	Coalescer	Eliminizer® Combo	Oil Extractor Combo	E4000-4 / DRAD
20	¼	3P-020-M02-F	3C-020-M02-F	3P-020-M02-DC	4P-060-M02-DC	Non-regenerative E4000-4 25 SCFM Regenerative DRAD-4-PAM 4 SCFM DRAD-8-PAM 8 SCFM DRAD-15-PAM 15 SCFM DRAD-25-PAM 25 SCFM *PAM consists of pre and post filtration. Call factory for pricing. *Larger flows also available.
60	¼	3P-060-M02-F	3C-060-M02-F	3P-060-M02-DC	4P-060-M02-DC	
	⅜	3P-060-M03-F	3C-060-M03-F	3P-060-M03-DC	4P-060-M03-DC	
	½	3P-060-M04-F	3C-060-M04-F	3P-060-M04-DC	4P-060-M04-DC	
90	½	3P-090-M04-F	3C-090-M04-F	3P-090-M04-DC	4P-090-M04-DC	
	¾	3P-090-M06-F	3C-090-M06-F	3P-090-M06-DC	4P-090-M06-DC	
	1	3P-090-M08-F	3C-090-M08-F	3P-090-M08-DC	4P-090-M08-DC	
150	½	3P-150-M04-F	3C-150-M04-F	3P-150-M04-DC	4P-150-M04-DC	
	¾	3P-150-M06-F	3C-150-M06-F	3P-150-M06-DC	4P-150-M06-DC	
	1	3P-150-M08-F	3C-150-M08-F	3P-150-M08-DC	4P-150-M08-DC	
250	1	—	3C-250-M08-F	—	—	

Point-of-use Application										
		High Pressure / Gas Filters			Food Grade			Stainless Steel		
SCFM	NPT (in.)	Eliminizer®	Coalescer	Eliminizer® Combo	Eliminizer®	Coalescer	Oil Extractor Combo	Eliminizer®	Coalescer	Oil Extractor Combo
60	¼	—	—	—	—	—	—	—	—	—
	⅜	—	—	—	3P-060-F03-F	3C-061-F03-F	4P-061-F03-DC	—	—	—
	½	3P-060-M04-PHP	3C-060-M04-PHP	3P-060-M04-DCHP	3P-060-F04-F	3C-061-F04-F	4P-061-F04-DC	3P-060-S04-F	3C-061-S04-F	4P-061-S04-DC
90	½	—	—	—	3P-090-F04-F	3C-091-F04-F	4P-091-F04-DC	—	—	—
	¾	3P-090-M06-PHP	3C-090-M06-PHP	3P-090-M06-DCHP	3P-090-F06-F	3C-091-F06-F	4P-091-F06-DC	—	—	—
	1	3P-090-M08-PHP	3C-090-M08-PHP	3P-090-M08-DCHP	3P-090-F08-F	3C-091-F08-F	4P-091-F08-DC	3P-090-S08-F	3C-091-S08-F	4P-091-S08-DC
150	½	—	—	—	3P-150-F04-F	3C-151-F04-F	4P-151-F04-DC	—	—	—
	¾	3P-150-M06-PHP	3C-150-M06-PHP	3P-150-M06-DCHP	3P-150-F06-F	3C-151-F06-F	4P-151-F06-DC	—	—	—
	1	3P-150-M08-PHP	3C-150-M08-PHP	3P-150-M08-DCHP	3P-150-F08-F	3C-151-F08-F	4P-151-F08-DC	3P-150-S08-F	3C-151-S08-F	4P-151-S08-DC
*Standard HP units are 0-500 PSI. Higher pressures are available. Contact the factory for more information.					*The food grade filters meet the requirements of 21CFR110, while the coating ingredients meet at least one section of FDA Title 21, with the exception of food items containing 8+% alcohol.					

Replacement Elements Chart/Accessories

For Eliminex® Units

1P-060	60 SCFM
1P-090	90 SCFM
1P-120	120 SCFM
1P-150	150 SCFM
1P-175	175 SCFM
1M-300	300 SCFM
1M-400	400 SCFM
1M-700	700 SCFM
1M-1200	1200 SCFM
1M-2500	2500 SCFM
1M-5500	5500 SCFM



3.0 micron & larger

Media: Washable Stainless Steel Mesh

Note: The first 5-6 characters of the unit's part number comprise the element's part number.

Note: Elements are shown clear for display purposes only.

For Oil Extractor Units

4P-060	60 SCFM
4P-090	90 SCFM
4P-150	150 SCFM

1.0 micron & larger

Media: Stainless Steel Mesh, Woven Cotton & Activated Carbon



For Elimimizer® Units

3P-020	20 SCFM
3P-035	35 SCFM
3P-060	60 SCFM
3P-090	90 SCFM
3P-150	150 SCFM

1.0 micron & larger

Media: Stainless Steel Mesh & Woven Cotton/Polyester Blend



For Coalescing Units

3C-020	20 SCFM
3C-021*	20 SCFM
3C-060	60 SCFM
3C-061*	60 SCFM
3C-090	90 SCFM
3C-091*	90 SCFM
3C-150	150 SCFM
3C-151*	150 SCFM
3C-250	250 SCFM
3C-251*	250 SCFM
3C-300	300 SCFM
3C-301*	300 SCFM
3C-400	400 SCFM
3C-401*	400 SCFM
3C-700	700 SCFM
3C-701*	700 SCFM
3C-1200	1200 SCFM
3C-1201*	1200 SCFM
3C-1900	1900 SCFM



0.01 micron & larger

Media: Long lasting borosilicate material

**Grade 1: A finer grade coalescing element with a rating of 0.01 micron at 99.99998% Grade 2 is standard.*

For download-able sales sheets/pdfs, visit our website at www.driair.com

Brackets

BK-1	Stainless steel bracket for 60 SCFM units
N32-95-734	Universal pipe bracket for ½" to 1" units
N34-95-969	Wall mount bracket for 20 SCFM units
PB-004	Bracket set for ½" Eliminator® units



Indicators*

N32-95-020	Blanking cap
N32-W1-DPi	Differential Pressure Indicator



Drain Assemblies

N32-95-182	Petcock assembly (for all poly bowls)
N32-95-973	Plastic automatic drain assembly
N32-95-979	Composite automatic drain assembly
N32-95-XD8	External automatic drain assembly
PC-02	¼" petcock for metal bowls
PC-03	⅜" petcock for metal bowls



Bowl Assemblies*

N32-15-159	Poly bowl with petcock drain for 20 SCFM units
N32-15-160	Poly bowl with plastic drain for 20 SCFM units
N32-15-163	Poly bowl with petcock drain for 60 SCFM units
N32-15-165	Poly bowl with plastic drain for 60 SCFM units
N32-15-167	Poly bowl with petcock drain for 90/150 SCFM units
N32-95-950	Metal bowl with plastic drain for 20 SCFM units
N34-15-178	Metal bowl with composite drain for 90/150 SCFM units
N34-15-180	Metal bowl with petcock drain for 90/150 SCFM units
N34-95-201	Metal bowl with composite drain for 60 SCFM units
N34-95-205	Metal bowl with petcock drain for 60 SCFM units



Ball Valves/Slide Valves

BV-025
BV-050
SV-02



Dew Point Indicators

WFA-008
RTi-04-CK



Regulators with Gauge

Available ¼" thru ¼"
MR-1120-02G ¼" (shown)



HD Regulators with Gauge

Available ¼" thru 1½"
R500HD-G ½" (shown)



Washdown Filter/Regulators

Available ¼" thru ½"
RT-FR250-G ¼" (shown)



***Poly bowls max. temperature: 125 °F.
Metal bowls max. temperature: 175 °F
without indicator.**

RTi Product Groupings

Drains/Mini Filters



ED-2-4
Electronic Drain
¼" - ½" NPT



RTi-MGD
Mini Magnetic Drain



F125-MINI
Miniature filter
⅜", 20 SCFM

Mainline Series



Grouping
Eliminex®
Coalescer
Eliminex® Combo



Flow
10-5500 SCFM
10-3000 SCFM
10-3000 SCFM



Pipe Connection
½" NPT - 6" flange
½" NPT - 6" flange
½" NPT - 6" flange

Oil Extractor Series | 4P Series



Grouping
Oil Extractor Combo

Flow
2-150 SCFM

Pipe Connection
¼" NPT - 1" NPT

Desiccant Series | Manual/Self Regen.



Grouping
E4000
DRAD/Twin Tower



Flow
2-25 SCFM
2-3000 SCFM

Pipe Connection
¼" NPT - ½" NPT
½" - 4" flange

316 Stainless Steel Series



Grouping
Eliminizer®
Coalescer
Oil Extractor Combo



Flow
2-250 SCFM
2-250 SCFM
2-150 SCFM



Pipe Connection
½" NPT - 1" NPT
½" NPT - 1" NPT
½" NPT - 1" NPT

Refrigerated Dryers



Grouping
Cycling
Non-Cycling

Flow
20-850 SCFM
20-150 SCFM



Dew Point Suppression
38 °F Dew Point
41 °F Dew Point

Point-Of-Use Series



Grouping
Eliminizer®
Coalescer
Eliminizer® Combo



Flow
2-150 SCFM
2-250 SCFM
2-150 SCFM



Pipe Connection
¼" NPT - 1" NPT
¼" NPT - 1" NPT
¼" NPT - 1" NPT

Coalescer Series | 3C Series



Grouping
Coalescer

Flow
2-3000 SCFM

Pipe Connection
¼" NPT - 6" NPT

Food Grade Series



Grouping
Eliminizer®
Coalescer
Oil Extractor Combo



Flow
2-150 SCFM
2-150 SCFM
2-150 SCFM



Pipe Connection
¼" NPT - 1" NPT
¼" NPT - 1" NPT
¼" NPT - 1" NPT

High Pressure/Natural Gas Series



Grouping
Eliminizer®
Coalescer
Eliminizer® Combo



Flow
2-150 SCFM
2-250 SCFM
2-150 SCFM



Pipe Connection
¼" NPT - 1" NPT
¼" NPT - 1" NPT
¼" NPT - 1" NPT

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