

TSUNAMI

COMPRESSED AIR SOLUTIONS™

www.tsunami.us.com

Superior Filtration Products. Pure & Simple.





Tsunami Compressed Air Solutions™, a division of *Suburban Manufacturing*, offers a complete line of products engineered to give customers dry, clean air for their specific application demands. Our systems use the latest technology to provide the highest quality compressed air available.

*“Engineering Value
through Quality and Innovation”*



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PRODUCT GUIDE

	Air Dryers	4-5
	Filtration	6-7
	Breathing Air	8
	Specialty Filtration	9
	Drains	10
	Hose, Couplers & Air Monitoring Equipment	11
	Parts & Accessories	12-13

TECHNICAL INFORMATION

	Compressed Air Facts	14
	Facility Analysis	15
	Air Dryers	16-17
	Filtration	18-19
	Drains	20-21

APPLICATION GUIDE

	Custom Configuring Dryers	22-23
	Mobile & Industrial	23
	Paint, Body & Equipment	24-27



Air Dryers

TSUNAMI REGENERATIVE DRYERS



The Tsunami Regenerative Dryer uses the latest technology to provide your application with the cleanest, driest compressed air available. Our systems are complete packages and include Tsunami water separators, oil coalescing filters and Moisture Minder® automatic drains to assure proper draining of water and oils. Tsunami Regenerative Dryers are available in a variety of sizes and configurations to fit your specific application requirements. For more information on Regenerative Dryers, see [Technical Information - Air Drying](#) on pgs. 16-17.

- 3 Year Warranty on all Complete Drying Systems
- Low Dew Points - down to -80°F
- Low Relative Humidity - down to .01% RH
- Expandable Drying Technology - Increase dryer capacity without buying a new system
- Easy, Low Cost Maintenance - Simply replace oil coalescing filter element every six months
- Dual Inlet/Outlet Ports - Allows for multiple installation configurations
- For **Maximum Performance** size dryer at 100% duty cycle flow rate

Dryer flow rates based on 100° F inlet air @ 175 psi inlet pressure.
 Lower inlet pressure and higher temperatures affect the performance and quality of the downstream air.
 Standard orifice configuration - See pg. 22

COMPLETE DRYING SYSTEMS



Mounted Units

10Hp - 30Hp Complete Drying Systems

Wall Mounted units come complete with pre-filters, PLC, mounting rail and automatic drains.

Size	Max Flow @ 100% Duty Cycle	Max Flow @ 70% Duty Cycle	Std Orifice Ø	Height	Width	Depth	Inlet/Outlet NPT	Part Number
10Hp	28 CFM	40 CFM	.030	31"	23"	12"	1"	21999-0710
15Hp	42 CFM	60 CFM	.045	31"	30"	12"	1"	21999-0715
20Hp	56 CFM	80 CFM	.030	31"	35"	12"	1"	21999-0720
30Hp	84 CFM	120 CFM	.060	31"	35"	12"	1"	21999-0730

Global units sent outside North America have special power adaptors: part number should be followed by -G



Ultra Drying System

10Hp - 30Hp Tank Mounted Drying Systems

Fully assembled solutions complete with pre-filters, PLC, automatic drains and outlet regulator. Ultra Systems come mounted on an 80 gallon tank for storing ultra dry air.

Size	Max Flow @ 100% Duty Cycle	Max Flow @ 70% Duty Cycle	Std Orifice Ø	Height	Width	Depth	Inlet/Outlet NPT	Part Number
10Hp	28 CFM	40 CFM	.030	71"	51"	28"	1"	21999-0810
15Hp	42 CFM	60 CFM	.045	71"	51"	28"	1"	21999-0815
20Hp	56 CFM	80 CFM	.030	71"	51"	28"	1"	21999-0820
30Hp	84 CFM	120 CFM	.060	71"	51"	28"	1"	21999-0830

UNIQUE APPLICATION SOLUTIONS



Portable Regenerative Dryer

Up to 20 minutes of clean, dry air between manual regeneration cycles.

- Oil coalescing pre-filter with regulator
- Provides dry air where you need it
- 35' Tsunami Ultra-flo Hose
- All contained in one case with wheels

Max Flow @ 100% Duty Cycle	Part Number
28 CFM	21999-0788



Single Tower Regenerative Dryer

Up to 20 Minutes of clean, dry air between manual regeneration cycles.

- 2-Stage Tsunami Filtration
- Economical solution for low air demand
- Manual control valve may be mounted up to 50' away

Max Flow @ 100% Duty Cycle	Part Number
28 CFM	21999-0722



MEMBRANE DRYING SYSTEM



Easy installation, low maintenance drying system

- First-stage water separator with float drain
- Second-stage oil coalescing filter with float drain
- Third-stage membrane dryer unit
- High flow piston regulator downstream

Description	Part Number
Membrane Drying System	21999-0357
Membrane Dryer Core	21999-0355

Specifications

- 3.3 CFM sweep air @ 100PSI
- 175psi maximum inlet pressure
- 60psi maximum outlet pressure
- 100° F maximum inlet air temp
- ½" NPT ports

DO NOT EXCEED

- 20 CFM max inlet flow
- 16.7 CFM max outlet flow

CUSTOM CONFIGURED DRYING SOLUTIONS

Suburban Manufacturing has engineered customizable Tsunami dryers to supply dry, clean air for specific application requirements. Systems can be configured by tower drying capacity, orifice size, and control type to assure that the proper solution is provided. Pre-filtration sold separately.



Configurable options include:

- (A) Select number of regenerative drying manifolds
- (B) Choose control type
- (C) Choose orifice size
- (D) Determine tower capacity requirements & drop-in mounting rail option



Base Dryer
2 Tower
3 Tower
4 Tower



Control Type
12v Air Valve
120v Air Valve
PLC
Global PLC



Orifice Size	
.015	.060
.030	.080
.045	.090



Tower / Mounting Option
Standard Capacity
High Capacity
Wall Bracket

For more information on how to appropriately size and order your application specific dryer, see [Technical Information - Configuring Custom Dryers](#) on pgs. 22-23.



Rail-Mounted Regenerative Dryers 50Hp - 150Hp

High capacity rail-mounted dryers have been configured to achieve dew points from -20°F to -80°F, depending on duty cycle and flow rates. Pre-filtration sold separately.

Size	Max Flow @ 100% Duty Cycle	Max Flow @ 70% Duty Cycle	Orifice Ø	Height	Width	Depth	Inlet/Outlet NPT	Part Number
50Hp	140 CFM	200 CFM	.080	66"	23"	14"	2"	21999-0750
75Hp	210 CFM	300 CFM	.080	66"	90"	14"	2"	21999-0755
100Hp	280 CFM	400 CFM	.080	66"	90"	14"	2"	21999-0760
125Hp	350 CFM	500 CFM	.080	66"	135"	14"	2"	21999-0765
150Hp	420 CFM	600 CFM	.080	66"	135"	14"	2"	21999-0770



Filtration

TSUNAMI FILTRATION

The most important part of filtration is on the inside. Today, many manufacturers use die cast housings which collect chemicals from your compressed air and will eventually oxidize and create a white rust inside your filtration. What separates Tsunami from other manufacturers is that our filters are machined from 6061 aircraft aluminum. They are anodized for maximum corrosion resistance, inside and out. This prevents rust and corrosion from forming inside the filter housings unlike filters manufactured out of die cast materials. To further understand the technology behind our filtration, see [Technical Information - Filtration](#) on pgs. 18-19.



Specifications - Filters are available from 20 SCFM to 240 SCFM. Multiple draining options available. Mounting brackets sold separately. See page 12.

Filter Series	Maximum Flow Rate	Maximum Pressure	Maximum Temperature	Port Size
20 Series	20 SCFM	250 PSI	175°F	1/4" NPT
50 Series	50 SCFM	250 PSI	175°F	1/2" NPT
120 Series	120 SCFM	250 PSI	175°F	1" NPT
200 Series	200 SCFM	250 PSI	175°F	1-1/2" NPT
240 Series	240 SCFM	250 PSI	175°F	1-1/4" NPT

FILTER DRAIN OPTIONS

Tsunami water separators and oil coalescing filters are designed to accommodate multiple drain types for specific application needs. Draining options include float drains, our patented Moisture Minder Electronic Drain and our patent pending pneumatic drain. To best select the appropriate drain type for your application, see [Drains](#) on pg. 10



WATER SEPARATORS

The Tsunami water separator removes water, up to 1 quart per minute, and filters particulate down to 10 micron.

Drain Type	20 SCFM	50 SCFM	120 SCFM	200 SCFM	240 SCFM
Float Drain	21999-0390	21999-0131	21999-0082	N/A	21999-0288
Electronic Drain	N/A	21999-0131-Z-ED	21999-0082-Z-ED	21999-0850-Z-ED	21999-0288-Z-ED
Pneumatic Drain	21999-0390-MM	21999-0131-MM	21999-0082-MM	21999-0850-MM	N/A

OIL COALESCING FILTERS

The Tsunami oil coalescing filter removes oil aerosols down to .001 ppm and traps particulates down to .01 micron.

Drain Type	20 SCFM	50 SCFM	120 SCFM	200 SCFM	240 SCFM
Float Drain	21999-0390-Z-FD	21999-0131-Z-FD	21999-0082-Z-FD	N/A	21999-0289
Electronic Drain	N/A	21999-0131-Z-ED	21999-0082-Z-ED	21999-0850-Z-ED	N/A
Pneumatic Drain	21999-0390-Z-MM	21999-0131-Z-MM	21999-0082-Z-MM	21999-0850-Z-MM	N/A

ACTIVATED CARBON FILTERS

The Tsunami activated carbon filter removes oil vapor down to .003 ppm, removing odor and taste from the air.

Drain Type	20 SCFM	50 SCFM	120 SCFM	200 SCFM	240 SCFM
N/A	21999-0390-AC	21999-0131-AC	21999-0082-AC	N/A	21999-0289-AC



TSUNAMI FILTRATION PACKAGES

Tsunami filtration packages come standard with float drains where water separators and oil coalescing filters are used. Mounting brackets included with filtration packages.

Package #	Package #1	Package #2	Package #3	Package #4	Package #5	Package #6	Package #7	Package #8
20 Series	21999-0416	21999-0415	21999-0424	21999-0677	21999-0421	21999-0678	N/A	21999-0414
50 Series	21999-0247	21999-0249	21999-0251	21999-0253	21999-0255	21999-0257	21999-0494	21999-0679
120 Series	21999-0248	21999-0250	21999-0252	21999-0254	21999-0256	21999-0258	N/A	N/A

Package #1



Includes:
water separator
lubricator

Typical Applications

- Air Tools
- Tire Changers
- Automotive Lifts
- Robotics
- Machine Tool

Package #2



Includes:
water separator
regulator
lubricator

Typical Applications

- Air Tools
- Tire Changers
- Automotive Lifts
- Robotics
- Machine Tool

Package #3



Includes:
water separator
oil coalescing filter

Typical Applications

- Industrial Painting
- Plasma Cutting
- Nitrogen Generators
- Critical Automation

Package #4



Includes:
water separator
oil coalescing filter
regulator

Typical Applications

- Industrial Painting
- Plasma Cutting
- Nitrogen Generators
- Critical Automation

Package #5



Includes:
water separator
oil coalescing filter
activated carbon filter

Typical Applications

- Laser Cutters
- Automotive Painting
- Inspection Rooms
- Precision Equipment
- Medical
- Air Bearings

Package #6



Includes:
water separator
oil coalescing filter
activated carbon filter
regulator

Typical Applications

- Laser Cutters
- Automotive Painting
- Inspection Rooms
- Precision Equipment
- Medical
- Air Bearings

Package #7



Includes:
oil coalescing filter
regulator

Typical Applications

- Air Tools
- Tire Changers
- Automotive Lifts
- Robotics
- Machine Tool

Package #8



Includes:
water separator
regulator

Typical Applications

- Laser
- Air Tools
- Tire Changers
- Automotive Lifts
- Robotics
- Machine Tool



Breathing Air

GRADE "D" BREATHING AIR SYSTEMS

ENGINEERED TO OSHA REQUIREMENTS FOR GRADE "D" AIR . OSHA Regulations (Standard-29 CFR) Respiratory Protection– 1910.134
****Use only with electric driven compressors* !! Follow all your state and local OSHA rules and regulations !!**

Please allow 2-3 week lead time on all breathing air products.



Single User Breathable Air System

- 2-stage Tsunami filtration - 50 Series
- Mounting bracket
- 50ft Tsunami Ultra-flo hose
- Belt unit
 - includes:
 - Dual regulators
 - Carbon filter
 - CO monitor
 - 5' whip hose

Hood and calibration kit sold separately

Port Size NPT	Max Flow	Max Pressure	Setting Range	Part Number
1/2"	25 CFM	250 PSI	0-120 PSI	21999-0791
1/4"		Belt Unit Only		21999-0790



1 - 4 Person Breathable Air Panel

- 3-stage Tsunami filtration
- Digital readout
- Automatic float drains
- Less faulty readings with continuous carbon monoxide monitoring
- Calibration made easy with Autocal®

Hoses, hoods, and calibration kit sold separately

Port Size NPT	Max Flow	Max Pressure	Setting Range	Part Number
1/2"	50 CFM	250	-	21999-0265

BREATHING AIR ACCESSORIES

Single User Breathable Air Accessories	Part Number
Replacement Belt	SW-0946
Replacement Spring	LC 125N 01 S

GFG Breathing Air Accessories	Part Number
Calibration Kit for CO Monitor	21999-0264
CO Monitor for Tsunami Breathing Air Panel	21999-0263
CO Monitor for Tsunami Single User Systems	RAM1418-017
110/120v Wall Pack Adaptor Replacement	21999-0267



SAS Breathing Air Accessories	Part Number
Activated Carbon Filter Replacement Element	21999-0399
Gen-Nex Supplied Air Hood Assembly	21999-0396
Peel Off Lens Covers for Gen-Nex Hoods - 10 pk	21999-0417
Replacement Hoods w/o Headband or Hose - 3pk	21999-0400
50' Hose for Breathing Air	21999-0397



Bullard Breathing Air Accessories	Part Number
25' Starter Hose & Quick Connectors (mandatory)	21999-0276
25' Extension Hose & Quick Connectors	21999-0277
50' Extension Hose & Quick Connectors	21999-0278
100' Extension Hose & Quick Connectors	21999-0279
Full Hood Set (includes regulator and belt)	21999-0275
Mylar Lens Covers - Full Hood - (25pk)	21999-0273
Cooling Tube w/ Belt - Hood Only	21999-0274
Replacement Hood w/o Head Band - (10pk)	21999-0281
Full Mask Set - Spectrum Series w/ belt & regulator	21999-0285
Mylar Lens Covers - Full Mask - (25pk)	21999-0272
Replacement Lens for Full Mask	21999-0282
Cooling Vest - Medium - Large	21999-0286
Cooling Vest - X-Large - XX-Large	21999-0287
Cooling Tube for Vest	21999-0280



PRECISION EQUIPMENT FILTRATION SYSTEMS

The number one cause of precision equipment downtime and repair is water, oil, oil vapor and particulates from compressed air systems. Fouling of air lines and air bearings can cause breakdowns and expensive repairs. Tsunami filtration systems are designed to maximize performance and eliminate downtime on your CMM, air gauging, and other air driven precision equipment.

- Maintains accuracy of machine
- Removes water, oil, & oil aerosols down to .01 micron
- Removes oil vapor down to .003 ppm
- Eliminates expensive repairs
- Easy installation
- Single adjustable auto drain ejects oil & water
- Micro-flex element capacity 3X larger than our competitor's elements (Efficiency: Dry 99.949 Saturated 99.920)
- Grade "D" instrument air meets HEPA air quality standards
- 100% duty cycle



(A) 20 Series w/ regulator



(B) 50 Series



(C) 50 Series w/ regulator



(D) Membrane Dryer System

Package	Max Flow	Description	Part Number
A	20 CFM	20 Series Precision Equipment Filter System w/ Regulator	21999-0457
B	50 CFM	50 Series Precision Equipment Filter System	480-5039
C	50 CFM	50 Series Precision Equipment Filter System w/ Regulator	21999-0291
D	20 CFM	Precision Equipment Filter/Dryer System w/ Membrane Dryer & Regulator	21999-0524

INDUSTRIAL GRADE UTILITY STATION



For use on CNC machining centers, machine tools, assembly stations, and automotive lifts. Eliminate the problems found in commercial grade boxes.

- Easy to install
- Electrical outlets equipped with 20 amp industrial GFI protection
- Electrical outlets located above air service to prevent moisture damage & tangling
- Air service through 2 outlets: one non-lubricated and one lubricated for pneumatic tools
- Powder coated finish for durability and long life
- Hooks to hang and organize hoses and cords

Description	Part Number
Industrial Grade Utility Station - 110/120v AC 20 amp	21999-0081

FILTERS - REGULATORS - LUBRICATORS



Description	Part Number
Pressure Regulator w/ Gauge - 1/4" NPT - 25 SCFM	21999-0870
Pressure Regulator w/ Gauge - 1/2" NPT - 89 SCFM	21999-0871
Pressure Regulator w/ Gauge - 1" NPT - 160 SCFM	21999-0872
Special Regulator Kit for Air Amplifiers	21999-0680
Pressure Gage - (0-200 PSI) - 1/8" back mount - 1/4" NPT & 1/2" NPT Regulators	4338228
Pressure Gage - (0-200 PSI) - 1/4" back mount - 1" Regulator	G201420B
Lubricator - 1/4" NPT - 25 SCFM	21999-0298
Lubricator - 1/2" NPT - 153 SCFM	21999-0195
Lubricator - 1" NPT - 565 SCFM	21999-0196
Filter-Regulator Combo 1/4", 25 SCFM (F/R)	21999-0190
Filter-Regulator Combo 1/2", 88 SCFM (F/R)	21999-0192
Filter-Regulator Combo 1/4" port, 25 SCFM (F/R/L)	8825701



Drains

PNEUMATIC DRAINS

Compressed air systems can become severely contaminated when the simple duty of draining compressor tanks and filters gets neglected. Failure to complete this task will eventually lead to catastrophic results. The solution... A complete line of Moisture Minder® automatic drains. Moisture Minder® drains are available in standalone or filter-mounted units. For a better understanding of how our pneumatic drains operate, see [Technical Information - Drains](#) on pg. 20.

Features

- Automatic; only requires intermittent pilot signal
- No electricity required
- Seals made of Teflon® and Viton®
- Standard valve rated at 300psi
- Operates without pressure drop in air system

Benefits

- No manual adjustments required
- Saves money - no additional wiring
- Long life - can be used with synthetic oils
- Compatible with most systems



(A) Moisture Minder I



(B) Moisture Minder II



Patent Pending

(C) Moisture Minder Filter Drain

Drain	Rating	Description	Part Number
A	30 Hp	Moisture Minder I Automatic Drain - External Stainless Steel Reservoir	152-0000
B	5 Hp	Moisture Minder II Automatic Drain - Internal Reservoir	142-0000
C	20 CFM	20 Series - Moisture Minder Filter Drain Assembly (OEM / high volume only)	21999-0792
C	50 CFM	50 Series - Moisture Minder Filter Drain Assembly	21999-0795
C	120/240 CFM	120 Series - Moisture Minder Filter Drain Assembly	21999-0805

ELECTRONIC DRAINS

Moisture Minder® Electronic Drain Valve

U.S. Patent # 6571830

EPO # 01306857.2



The Moisture Minder® EDV incorporates a self-cleaning feature where a fixed strainer screen removes contaminants before reaching the valve orifice. See [Technical Information - Electronic Drains](#) on pg. 21.

- Dual size inlet - 1/4" I.D. - 1/2" O.D.
- Large 4mm internal orifice
- Internal armature and shaft made from stainless steel
- Solid state adjustable timer with test button
- Ball valve for self-cleaning strainer or manual drain

Description	Part Number
EDV Timed Solenoid w/ Strainer - 120/120v	21999-0177
EDV Timed Solenoid w/ Strainer - 220/230v	21999-0177-230
EDV Timed Solenoid w/ Strainer - 24v DC (minimum order quantity 100pc on 24v)	21999-0177-24

Tsunami Drain Minder II Controller



The Drain Minder II provides the air pilot signal to multiple pneumatic drains for maximizing the performance and efficiency of your compressed air system. See [Technical Information - Electronic Drains](#) on pg. 21.

- Adjustable from 30 sec to 120 min
- Drains can be located 100' from controller
- Drains can be installed in explosion proof rooms because of air pilot signal
- Increases standard drain capacity to expel more condensate

Description	Part Number
Drain Minder II Controller	144-0001



ULTRA-FLO SPRAY HOSE

Defend your work in the booth and take your air system into the future with Tsunami Ultra-flo technology.

- Engineered for high temperature exposure
- Proprietary internal coating prevents contamination
- Advanced engineering allows hose to lay flat - not prone to coil
- Extremely lightweight
- Built in anti static strip reduces static build up
- 3/8" ID



Anti-static strip

- Reduces or eliminates static build up
- Great solution for all tool applications



Ultra-flo Spray Hose - sold individually		Part Number
5'	Ultra-flo Spray Hose - work line replacement	21999-0495
35'	Ultra-flo Hose	21999-0449
50'	Ultra-flo Hose	21999-0450

Ultra-flo Spray Hose - sold in packs		Part Number
15'	Ultra-flo Spray Hose - 10 pack	21999-0836
25'	Ultra-flo Spray Hose - 10 pack	21999-0837
35'	Ultra-flo Spray Hose - 10 pack	21999-0783
50'	Ultra-flo Spray Hose - 5 pack	21999-0784

COUPLERS - PLUGS - BLOW GUNS

Safety push button couplings

- Venting-action eliminates hose-whip
- Leak-free design reduces energy cost
- One-hand connection is easy to operate

Energy Efficient



Couplers - sold in 10 packs		Part Number
	High Flow Hose Coupler - 1/4" NPT Female Thread	21999-0831
	High Flow Hose Coupler - 1/4" NPT Male Thread	21999-0832

Plugs - sold in 10 packs		Part Number
	High Flow Hose Plug - 1/4" NPT Female Thread	21999-0833
	High Flow Hose Plug - 1/4" NPT Male Thread	21999-0834

Blow Gun - sold in 10 packs		Part Number
	Nylon Tip OSHA Compliant Blow Gun	21999-0835

AIR MONITORING EQUIPMENT



Tsunami CFM Test Kit

- Measure the CFM usage at any air drop
- Easy to use; simply plug into air connection
- Complete with regulator and CFM flow meter
- Easy to read graph

Description	Part Number
CFM Test Kit	21999-0447



Tsunami Air Survey Kit

- Measure humidity, dew point and air temperature
- Easy to use; simply plug into air connection
- Complete with sensor filtration
- Easy to read LCD screen

Description	Part Number
Air Survey Kit	21999-0440



Replacement Parts & Accessories



REGENERATIVE DRYER REPLACEMENT PARTS

Tsunami Regenerative Dryer Maintenance Parts		Part Number
A	Piston Rebuild Kit for Tsunami Regenerative Dryer	21999-0707
B	Tower Replacement - standard capacity - purple	21999-0349
B	Tower Replacement - standard capacity - black	21999-0349-BK
B	Tower Replacement - high capacity - black	4055A001
C	PLC for 10Hp Tsunami Regenerative Dryer	21999-0672-10
C	PLC for 15Hp Tsunami Regenerative Dryer	21999-0672-15
C	PLC for 20Hp Tsunami Regenerative Dryer	21999-0672-20
C	PLC for 30Hp Tsunami Regenerative Dryer	21999-0672-30
D	Custom Dryer PLC - no drains	21999-0672-BK
	Mobile Dryer PLC	21999-0718
E	PLC Power Supply for Tsunami Regenerative Dryer	21999-0714
E	PLC Power Supply for Global Tsunami Regenerative Dryer	21999-0714-G
F	Tower Mounting Stud / Dryer Regenerative Valve (.015)	21999-0650-15
F	Tower Mounting Stud / Dryer Regenerative Valve (.030)	21999-0650-30
F	Tower Mounting Stud / Dryer Regenerative Valve (.045)	21999-0650-45
F	Tower Mounting Stud / Dryer Regenerative Valve (.060)	21999-0650-60
F	Tower Mounting Stud / Dryer Regenerative Valve (.080)	21999-0650-80

FILTRATION REPLACEMENT PARTS & ACCESSORIES

Accessories		Part Number
G	Drain Tube Kit - 10 pack	21999-0201
H	Mounting Bracket - 20 Series	21999-0867
H	Mounting Bracket - 50 & 120 Series	21999-0144

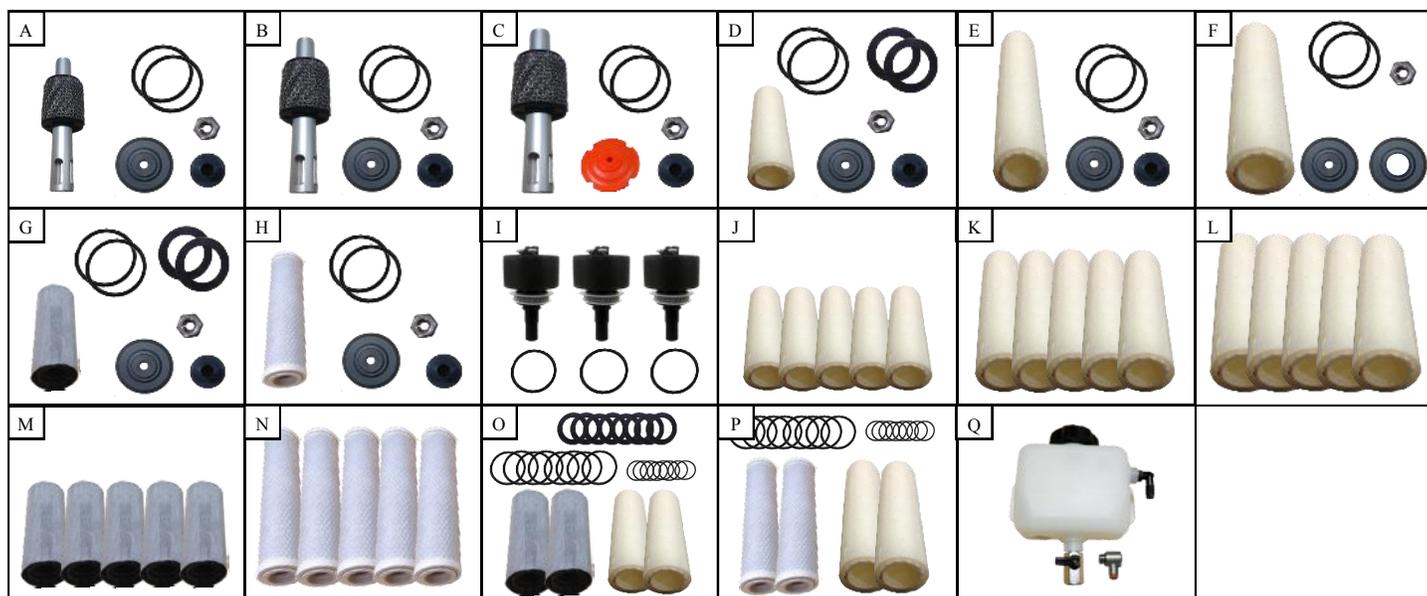
Outer Tube Replacement		Part Number
I	20 Series	21999-0386
I	50 Series	21999-0125
I	120 / 240 Series	21999-0078

Bottom Cap Replacement		Part Number
J	20 Series	21999-0388
J	50 Series	21999-0127
J	120 / 240 Series	21999-0182

Heater Wraps		Part Number
K	Heater Wrap - 20 Series & 50 Series Tsunami Filters - 110/120v AC	163-0644
K	Heater Wrap - 20 Series & 50 Series Tsunami Filters - 12v DC	163-0648
K	Heater Wrap - 20 Series & 50 Series Tsunami Filters - 24v DC	163-0646
K	Heater Wrap - 120 Series Tsunami Filters - 110/120v AC	163-0649
K	Heater Wrap - 120 Series Tsunami Filters - 12v DC	163-0651
	Heater Band - 120 Series Tsunami Filters - 24v DC	163-0650

DRAIN REPLACEMENT PARTS & ACCESSORIES

Pneumatic and Electronic Drain Parts and Accessories		Part Number
L	Deluxe Drain Installation Kit - best solution for installing pneumatic drains	21999-0317
M	Basic Drain Installation Kit - best solution for installing EDV drain	21999-0316
N	Strainer w/ 50 Mesh Screen	21999-0300



FILTRATION SERVICE KITS - REPLACEMENT PACKS - MAINTENANCE KITS

Water Separator Service Kits - Includes SS element, inner tube, baffle, adaptor, O-rings and lock nut		Part Number
A	20 Series Water Separator Service Kit	21999-0846
B	50 Series Water Separator Service Kit	21999-0227
C	120 Series Water Separator Service Kit (240 Series requires 2 kits)	21999-0228

Oil Coalescing Filter Service Kits - Includes coalescing element, baffle, adaptor, O-rings and lock nut		Part Number
D	20 Series Oil Coalescing Filter Service Kit	21999-0394
E	50/120/240 Series Oil Coalescing Filter Service Kit (240 Series requires 2 kits)	21999-0202
F	Dryer Oil Coalescing Filter Service Kit	21999-0202-Z-SP

Activated Carbon Filter Service Kits - Includes carbon element, baffle, adaptor, O-rings and lock nut		Part Number
G	20 Series Activated Carbon Filter Service Kit	21999-0395
H	50/120/240 Series Activated Carbon Filter Service Kit (240 Series requires 2 kits)	21999-0200

Float Drain Replacement Pack- All Series - 20, 50, 120, 240		Part Number
I	Float Drain Pack - kit includes 3 floats with bottom cap O-rings	21999-0868

Oil Coalescing Replacement Element Packs - 5 elements each		Part Number
J	20 Series Oil Coalescing Filter Element	21999-0823
K	50/120/240 Oil Coalescing Filter Element (240 Series requires 2 kits)	21999-0825
L	Dryer Oil Coalescing Filter Element	21999-0828

Activated Carbon Replacement Elements Packs - 5 elements each		Part Number
M	20 Series Activated Carbon Filter Element	21999-0824
N	50/120/240 Activated Carbon Filter Element (240 Series requires 2 kits)	21999-0826

PRECISION EQUIPMENT MAINTENANCE KITS & ACCESSORIES

Annual Maintenance Kits - contains (2) six month replacement element services along with O-rings		Part Number
O	20 Series	21999-0818
P	50 Series / Membrane Dryer	21999-0819

Accessories		Part Number
Q	Condensation Collection Kit	21999-0821



COMPRESSED AIR FACTS

THE #1 RULE OF COMPRESSED AIR

For every 20 degrees that compressed air is cooled, the air loses 50% of its ability to hold moisture in vapor form (humidity) and it is dropped out as a liquid.

Air Drying and Air Filtration.... There is a Difference!

Air Drying - The removal of water vapor (humidity) from compressed air, typically accomplished in one of four ways.

- Desiccant (molecular sieve, activated alumina, silica gel)
- Membrane
- Refrigeration
- Deliquescent

When to use compressed air dryers

- Air dryers should be used when you want to remove or reduce the humidity levels in your compressed air system to meet or exceed the air quality requirements for their compressed air demands.

Air Filtration - The removal of particulates, water, oil droplets, and oil aerosols.

This is most effective when done in stages:

- Water separator - removes bulk water, oil, and large particulates (down to 10 micron)
- Coalescing filter - removes oil, small aerosols and fine particulates (down to .01 micron)
- Activated carbon filter - removes oil vapors; eliminates odors and taste (down to .003ppm)

Where to place compressed air filtration

- The further away from the compressor, the more effective your filtration will work.
- On or near the equipment, directly connected to air supply connection (**IMPORTANT**)
- In front of all air dryers as pre-filters
- Water separators should be placed at all air tool drops with regulators

IMPORTANT THINGS TO KNOW

- Proper control of air pressure throughout your facility can help save 10-15% of your compressed air energy costs.
- Repairing an audible air leak can save you \$50 or more per year in energy used to drive your compressor.
- When sizing a compressor for manufacturing, it is important to calculate total machine air consumption as well as total air consumed by machine operators and other personnel.
- Proper control of air volume (CFM) will make all your air drying and filtration technology perform at their rated capacity. Most pieces of equipment have a manufacturer's specification of volume consumption along with the recommended operating pressure.
- Improper use of volume can cause an "over-flowing" of the rated capacity of your dryer or filtration which causes a carry over of moisture and contaminants.

- Many OSHA approved blow off guns can consume up to 35CFM, the equivalent of a 10Hp compressor. (example shown)



- Many color changing indicators used with desiccant systems do not begin to change color before 20%RH. (example shown)





UNDERSTANDING YOUR COMPRESSED AIR SYSTEM

Understanding your facility's compressed air requirements is essential to efficiently and effectively managing the system. By supplying the following information, Tsunami Compressed Air Solutions™ can provide recommendations that will save you money and eliminate costly down time.

How many compressors are in your facility? _____

<u>HP</u>	<u>Manufacturer</u>	<u>Model Number</u>	<u>Piston / Rotary Vane / Rotary Screw</u>

If multiple compressors are available, are they set up in series or parallel? _____

Are any of the compressors used for backup? _____

What is the system air pressure in the main receiver tank? _____ PSI At furthest air drop? _____ PSI

Do the compressor(s) or receiver tank(s) have automatic drains? ____Y ____N

Are the drains working? ____Y ____N

Where are the compressor(s) located? (in a closed room, outside, on a mezzanine, etc.) _____

Is there a pressure regulator located at or near the compressor for the whole system? ____Y ____N

If yes, what pressure is it set at? (look at pressure gauge) _____ PSI

Is the compressor room ventilated? ____Y ____N

If yes, inlet/outlet ventilated? _____ manual or electronic vent control? _____

Does the receiver tank of the compressor feel warm to the touch? ____Y ____N

Is there a refrigerated dryer? ____Y ____N

If yes, is it working? ____Y ____N

(This can be determined by grasping the inlet air line and the outlet air line with your hand, one should be warm and the other should be cool. If there is no difference, it probably is not working.)

Does the refrigerated dryer have pre-filters installed before the unit? ____Y ____N

If there is no refrigerated dryer, is there another type of drying technology being used? ____Y ____N

If yes, what type? _____

Does the drying technology (refrigerated or other) have pre-filters installed before the unit? ____Y ____N

Is the air system a loop system or a "dead end/dead stick" system? _____

What is the line size of the main air supply lines in the facility? _____ Line size of air drops off main? _____

Are there air leaks in the piping, at air fittings, or air hose? ____Y ____N

What material is the piping made from? ____Copper ____Black Iron ____Galvanized ____PVC

Note: Tsunami Compressed Air Solutions™ does not recommend PVC or other plastic piping

How many employees will be using the air system? _____

How many machines consume compressed air? _____ Total CFM required to operate? _____





REGENERATIVE DRYERS - HOW THEY WORK

1

The technology functions by passing contaminated compressed air through the Tsunami water separator where bulk water and oil is removed down to 10 micron. The air then passes through the oil coalescing filter which further removes oil and particulates down to .01 micron.

2

The pretreated air enters the dryer and passes through the desiccant canister(s). Molecular sieve desiccant forms a bed encapsulated within a 10 micron filter bag. The molecular sieve bed is spring loaded, under tight compression, virtually eliminating bead movement which causes breakdown of the media.

3

As the wet air passes through the tower(s), the molecular sieve draws the water vapor in while under pressure. At the same time, one or more tower(s) become depressurized. With the use of sweep air, the towers discharge water vapor through the mufflers located below the dryer manifolds.

4

The PLC sends out a pilot signal shifting an internal spool. When the spool shifts, air is redirected from the saturated tower(s) to the dried tower(s).

5

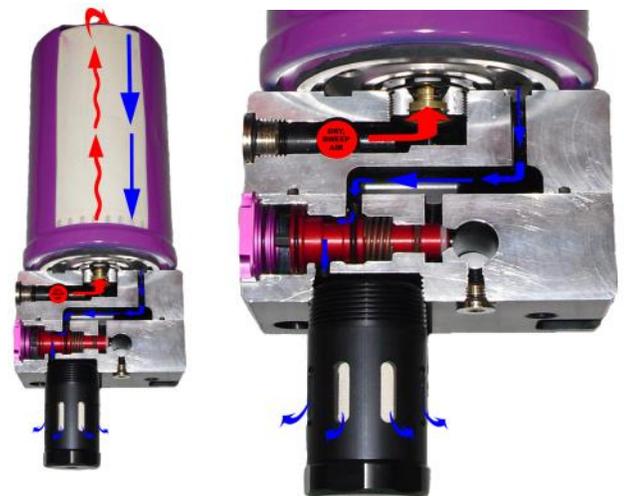
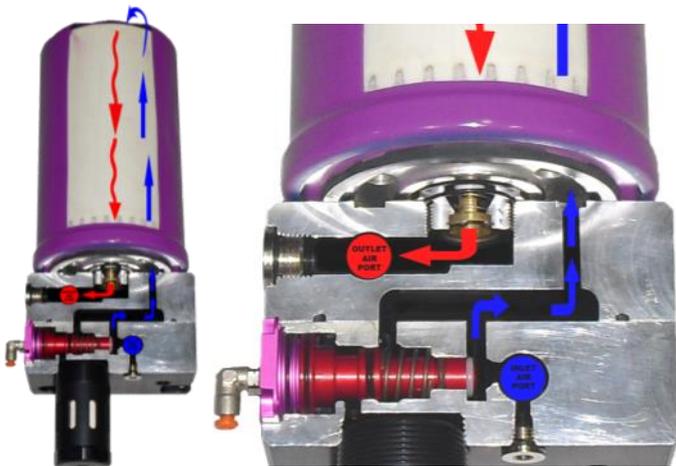
A small amount of air from the dry outlet flow is then directed backward through the wet towers via a small orifice in the regeneration valve. (This is referred to as "sweep air" or the "regeneration process") The desiccant is dried as the sweep air passes back through the canister(s). The tower is now ready to be cycled again. It's like changing your desiccant every few minutes.

THE DRYING PROCESS

- Wet Incoming Air - supply air from compressor or from the compressor system
- Dry Outgoing Air - air that has had the water vapor removed

THE REGENERATION PROCESS

- Dry Outgoing Air - small amount of dry air used to "sweep" or regenerate the towers
- Wet Discharge Air - water vapor which was removed during the drying cycle





Dual inlet ports and outlet ports provide for easier installation. The unique design of this modular system also allows compressed air to bypass through the inlet chamber for use of filtered air downstream without having to pass through the drying media.



Tower mounting stud with built-in regeneration valve. The size of the regeneration orifice controls how much air is used by the system to dry the towers. Reducing air volume and increasing orifice size can provide even lower dew points; down to -80°F. See pg. 22 for orifice flow chart.



Pre-filtration consists of a Tsunami water separator and oil coalescing filter. These units can handle up to a quart of liquid per minute for extremely wet and dirty air systems.



Dryer housings are machined from solid aluminum billet. Hard coat anodizing provides superior strength and corrosion resistance.



PLC controller allows for more consistent air flow by staggering tower sequencing.



Single piston spool per tower reduces the number of moving components. Allows for easy maintenance.

Moisture Minder® pneumatic drains automatically actuate with the dryer to eliminate any water and oil trapped by the Tsunami pre-filters. Eliminates the need for float drains on our pre-filtration.



TSUNAMI REGENERATIVE DRYER

VS.



REFRIGERANT DRYER

- Can handle high inlet temperature up to 150°F
- Performs well with high demand surge flows
- No Aftercooler Required
- Complete with Tsunami 2-stage pre-filters and automatic drains
- Dew points ... down to -80°F
- No refrigerant to maintain
- Works great with low flow rates
- Minimal maintenance required
- Change oil coalescing element every 6 months

- Max Inlet temperature 100°F
- Moisture will carry over during high demand surge flows
- Requires Aftercooler
- Must purchase pre-filters and automatic drains separately
- Dew points ... 35-50°F
- Refrigerant to maintain
- Low flow rates may allow water carry over at separator
- Regular Maintenance required:
 - Clean Heat Exchanger
 - Electric Motor
 - Refrigerant Compressor
 - Replace Separator Elements and Float Drain



TSUNAMI WATER SEPARATOR

The Tsunami water separator is a high quality filtration product which can be used to remove liquids and dirt particulates from compressed air systems with a capacity of up to 240 SCFM (Standard Cubic Feet per Minute).

The technology accomplishes its goal by taking the inlet air down through the inner tube and reverses direction when it hits the baffle plate. When this happens, the air velocity is slowed in the larger area of the outer tube which allows gravity to remove the bulk liquids. The air then travels upwards through the stainless steel mesh where the remaining water molecules are coalesced into larger droplets of liquid. The liquid is then drop to the bottom and are removed through the float drain.

The water separator consists of a unit head, outer tube, inner tube, baffle plate, coalescing stainless steel mesh and a bottom cap with float drain.

Head:

- The head is machined from 6061 aircraft aluminum and is anodized for corrosion resistance. In addition, the head is powder coated for **maximum corrosion protection**.

• Port sizes:

20 series - 1/4" NPT inlet / outlet	200 series - 1-1/2"
50 series - 1/2" NPT inlet / outlet	240 series - 1-1/4"
120 series - 1" NPT inlet / outlet	

Stainless Steel Mesh:

- The stainless steel mesh is a non-corroding material that retards rusting and breakdown of the weave.

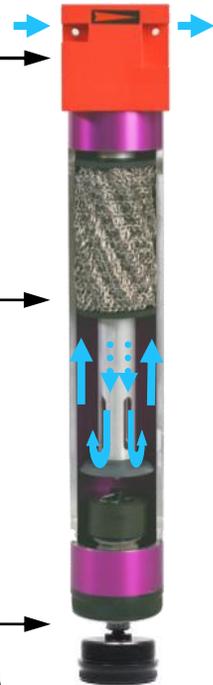
Outer Tube and Inner Tube:

- The inner and outer tubes are machined from 6061 aircraft aluminum which provides exceptional durability for the most rugged applications. The tubes are anodized both inside and out to prevent corrosion from air system contaminants.

Float Drain:

- The float drain is a critical component to this unit as its sole responsibility is to remove the liquids and contaminants.

- **Electronic and Pneumatic drains are recommended for air systems with dirty, rusty, or oily conditions**



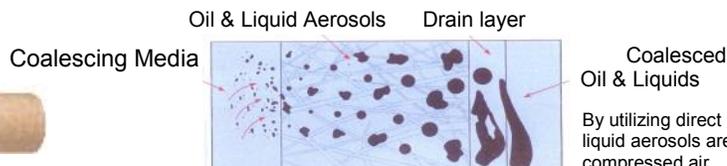
OIL COALESCING FILTER

How It Works

Once the aerosol is captured by a fiber, it coalesces with other captured aerosols to form a bulk liquid which is forced by the air flow to the outer surface of the filter media. A non-wicking drain layer attached to the outer surface of the filter media separates the oil and water liquid from the air flow and drains the liquid via gravity to the sump of the filter housing preventing entrainment.

Construction

Tsunami coalescing media is made of 100% borosilicate glass micro fibers bonded together with a resin binder. In the standard configuration, chemical-resistant polypropylene cores and layers intimately support the coalescing media. A non-wicking drain layer is in intimate contact with the outside of the outer support core.



Scanning Electron Micrograph of Coalescing Media @ 500X magnification

By utilizing direct interception, diffusion and impaction, liquid aerosols are coalesced and removed from compressed air.



DYNAMIC TECHNOLOGY VS. OLD TECHNOLOGY

TSUNAMI WATER SEPARATOR

- Dynamic technology
- 30 Day money back performance guarantee
- Flow rated under heavy, wet conditions

Heads:

- Machined from 6061 aircraft aluminum, anodized.
- **maximum corrosion protection**

Water Separation:

- Air flows thru center air channel tube to the bottom of Tsunami
- It hits the baffle plate depositing the liquid and particulate in the large drain sump
- **The air is then redirected 180° and flows up thru the oversized Stainless Steel mesh element**
- **Any remaining water droplets and aerosols to 10 micron are forced to the outside and will run down to the drain sump.**
- **Up-flow gravity separation**
- **Performance is 100% consistent at all flows**

Barrel:

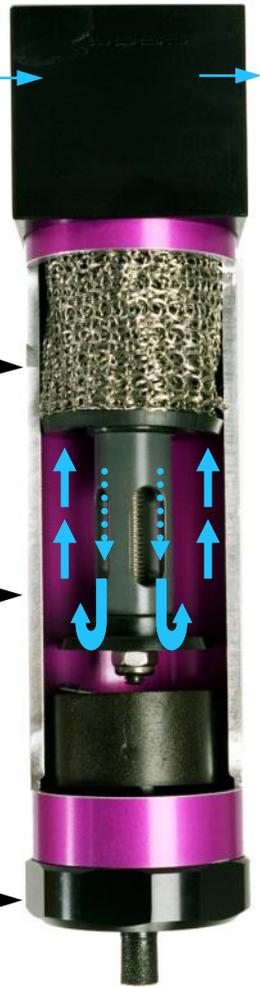
- **Oversize length and diameter**
- Machined from 6061 aircraft aluminum
- **Mil Spec anodized inside and out for corrosion resistance**
- **Large drain sump**
- **Can handle large surges of water**

Bottom Cap:

- **Mil Spec anodized for corrosion resistance**
- **Elevated sump for sediment to accumulate (extended drain life)**
- **Easy to remove for servicing float drain**

Float Drain Standard:

- **Easy to service**
- **Easy to install; low maintenance**



STANDARD FILTER

- 1940's technology
- No guarantee for product performance offered
- Most filters are flow rated dry in a laboratory

Heads:

- Made of die cast aluminum
- Interior not coated, **causes corrosion.**

Water Separation:

- Water separation is created by centrifugal motion (spinning the air)
- Does not work well with intermittent or low flows. **Allows moisture carryover**
- Need high continuous flow for best performance.
- Short separation distance between air inlet and filter element, **moisture carries over**
- **Short element life**

Elements:

- Very small
- **Plug Easily**
- **High pressure drop**
- **Frequent replacement required**

Plastic Bowls:

- **Requires metal bowl guards for safety**
- **Compressor oils will cause cracking**
- **Unable to support multiple draining options**
- **Unable to handle large surges of water**

Aluminum Die Cast Bowls:

- **Internal corrosion**

Drains:

- Manual drains are standard on most filters
- Float drains are optional
- **Location of float drains in one piece filter bowls cause premature drain failure**
- **Difficult replacement**



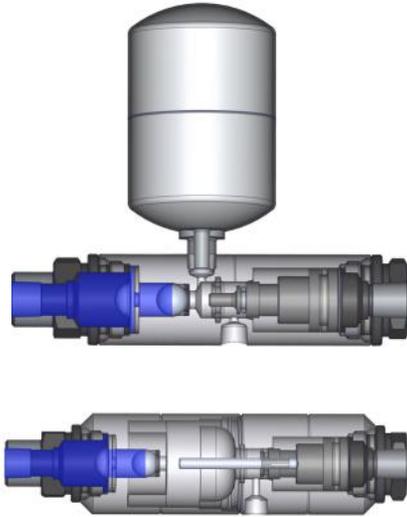


Technical Information - Pneumatic Drains

MOISTURE MINDER I - MOISTURE MINDER II

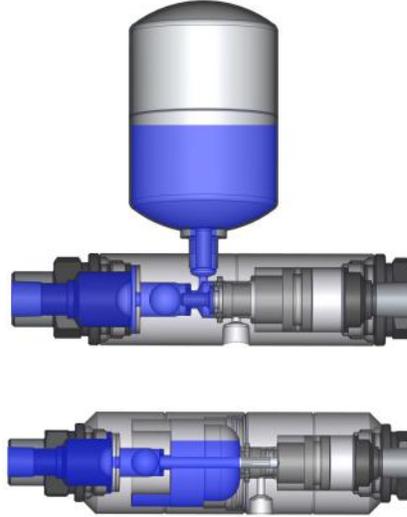
1) Pilot Signal Received

Condensation enters left hand, or water inlet of valve.



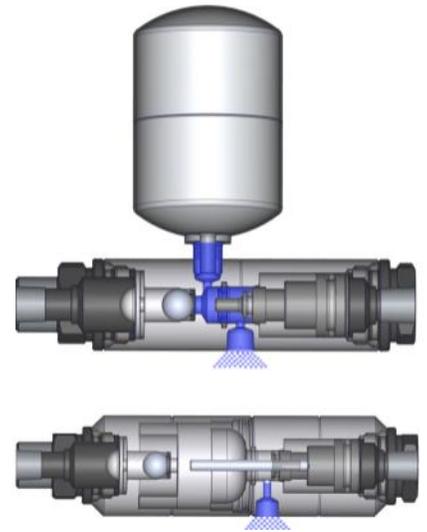
2) Pilot Signal From Unloader

Pilot signal is applied to air inlet. Piston will shift, closing off drain port. As piston continues to move it will open up the stainless ball check allowing condensate to be forced into the internal or external reservoir creating a discharge pressure.



3) Valve at Rest

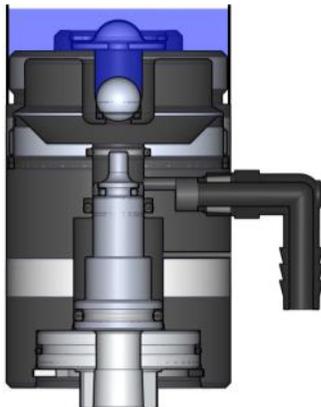
When pilot signal is relieved, piston returns to relaxed position. The ball check closes first preventing zero pressure loss in the system. The drain port then opens and stored condensate is ejected from the drain port.



MOISTURE MINDER FILTER DRAIN ASSEMBLY

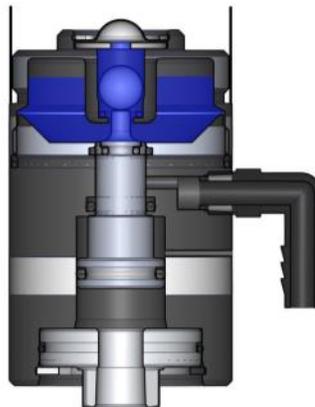
1) Pilot Signal Received

Condensation rests in the bottom of the filter housing, waiting for the drain to be actuated.



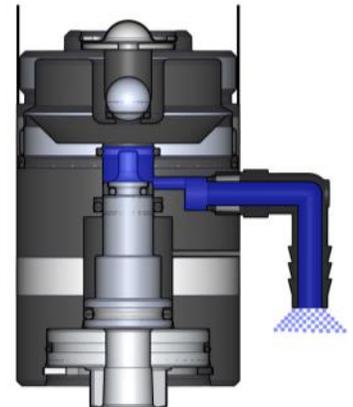
2) Pilot Signal From Unloader

Pilot signal causes piston to shift, closing off drain port. As piston continues to move it will open up the stainless ball check allowing condensate to be forced into the internal reservoir creating a discharge pressure.



3) Valve at Rest

When pilot signal is relieved, piston returns to relaxed position. The ball check closes, preventing zero pressure loss in system. The drain port opens and stored condensate is ejected from the drain port.

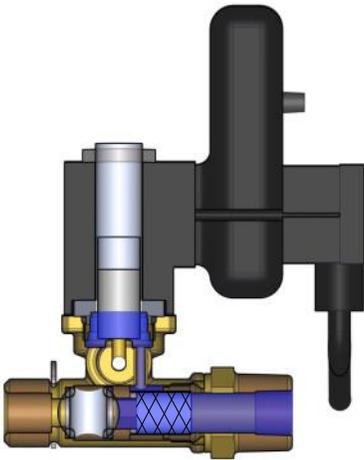




MOISTURE MINDER EDV ELECTRIC SOLENOID VALVE

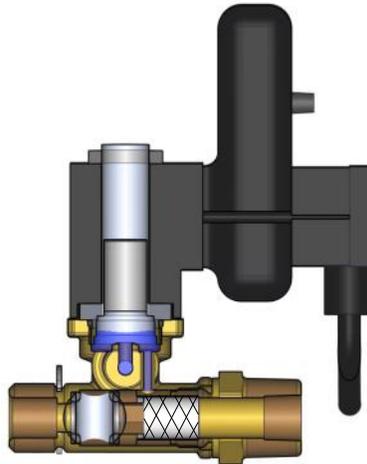
1) Timer actuates

Condensate enters through the inlet side of the valve. Debris is captured inside the internal strainer.



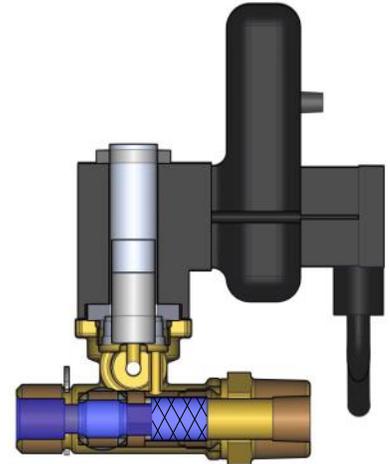
2) Debris is ejected

When valve activates condensate flows thru strainer up to the orifice and out the back discharge port. Debris is captured by internal strainer which prevents fouling of orifice.



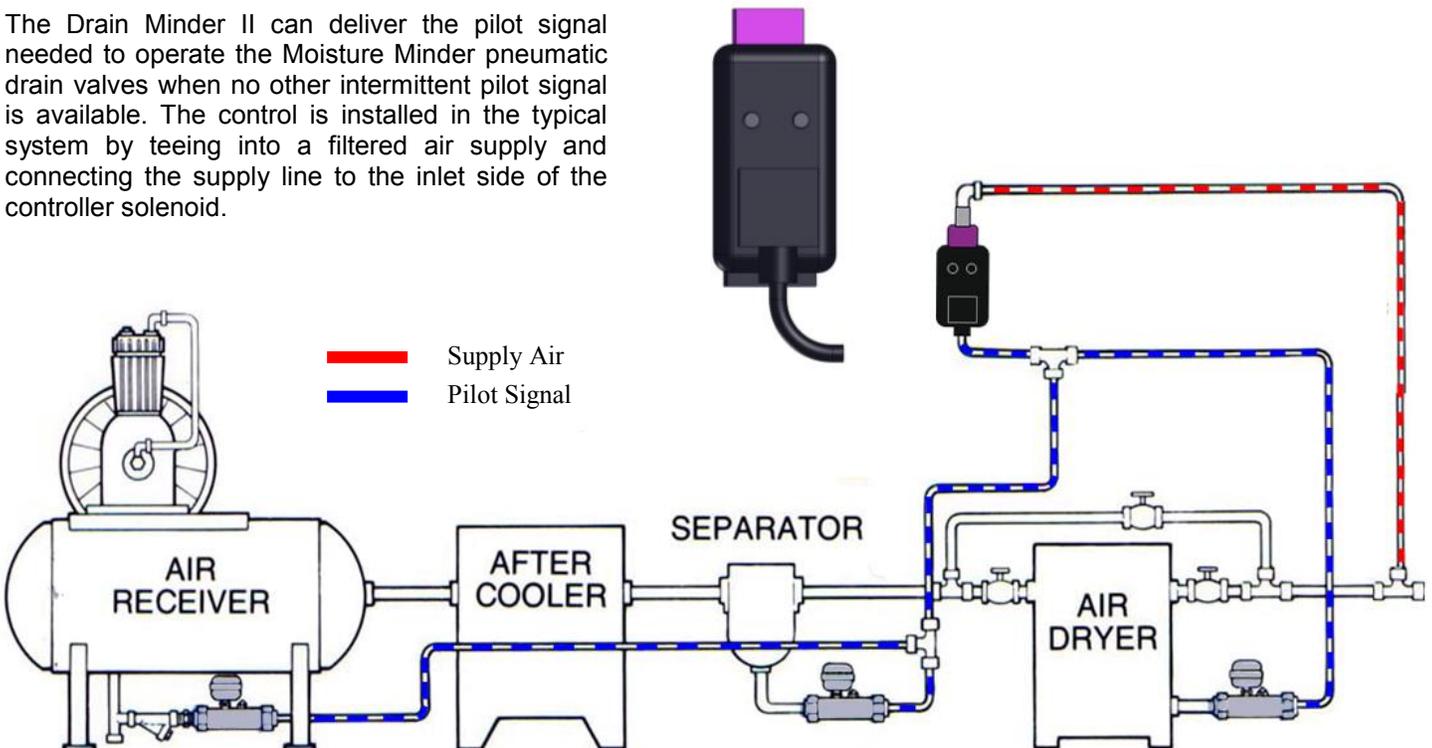
3) Manual Straining

Only open 1/4" ball valve to clean strainer or to manually drain the tank.



DRAIN MINDER II AUTOMATIC TIMER

The Drain Minder II can deliver the pilot signal needed to operate the Moisture Minder pneumatic drain valves when no other intermittent pilot signal is available. The control is installed in the typical system by teeing into a filtered air supply and connecting the supply line to the inlet side of the controller solenoid.





CUSTOM REGENERATIVE DRYERS

Our custom regenerative dryers allow flexibility for your specific application: **transportation, industrial, medical/dental, agricultural, and other uses.** When space is limited for dryer installations, our regenerative dryers allow for versatile installation options too.

Specific information is needed when customizing a dryer to make certain that the dryer's performance will meet the air quality requirements.

Do you need exceptionally dry air for the entire facility?

- If YES:
- What is the dew point / relative humidity desired?
 - What is the air output flow of compressor system?
 - What is the maximum outlet pressure of compressor system?
 - What is the system pressure needed for the facility?
 - What is the duty cycle of the compressor(s)?

- If NO:
- What is the dew point / relative humidity desired for the specific application requiring dry air?
 - What is the air consumption (flow rate) of the application or process?
 - What is the system pressure in the facility?
 - What is the pressure required for the specific application or process?
 - What is the duty cycle of the application or process?

Example shown in ordering matrix on pg. 23



P/N 872 - S - 3 - W

HOW TO CREATE YOUR CUSTOM DRYER P/N

STEP 1: Choose the number of dryer manifolds needed; this is determined by the number of towers required; tower quantity based on tower air flow capacity.

- Standard capacity towers rated @ 28 cfm each
- High capacity towers rated @ 40 cfm each

***** Important:** You must subtract the regeneration volume from the dryer capacity to properly size a dryer, see orifice chart in step 3***



Dryer Manifolds

STEP 2: Choose your control type:

- 3 tower dryers require a PLC control:
 - (2 towers in drying cycle and 1 tower in regeneration cycle)
- 4 tower dryers regenerate either 1 or 2 towers
- 4 tower dryer with air valve:
 - (2 towers in drying cycle and 2 towers in regeneration cycle)
- 4 tower dryer with PLC:
 - (3 towers in drying cycle and 1 tower in regeneration cycle)



Air Valve

PLC

STEP 3: Choose the orifice size for the appropriate amount of regeneration air needed

- High capacity towers require a minimum .060 orifice size .
- 3 tower dryers should use minimum .045 orifice size

Regeneration Volume Consumed by Dryer - CFM

Dryer Inlet Pressure	Orifice Diameter					
	0.015	0.030	0.045	0.060	0.080	0.090
100 psi	0.4	1.5	3.4	6	10.7	13.5
125 psi	0.5	1.9	4.1	7.3	13	16.4
150 psi	0.6	2.2	5	8.6	15.3	19.5
175 psi	0.7	2.5	5.6	10	17.5	22.3



Regeneration Valve Orifice



STEP 4: Choose whether you need high capacity towers and / or the mounting rail
 - **standard capacity towers come with all units unless specified with high capacity part designation**
 - drop in mounting rail not included; must be specified with proper part designation



OPTION: Choose the appropriate pre-filtration for the total inlet air volume to dryer; include regeneration air - see Page 6

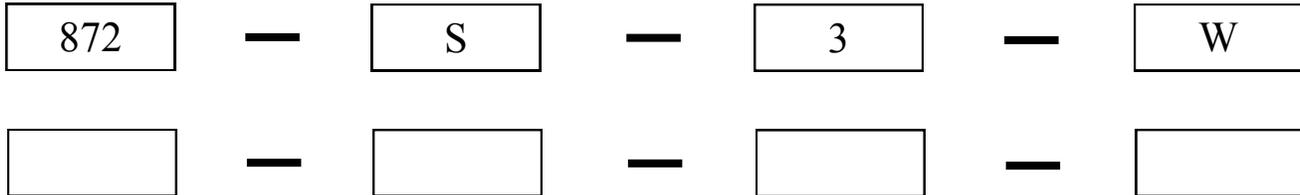
Manifolds	Part Number
2	872
3	873
4	874

Control Type	Part Number
12v Air Valve	D
120v Air Valve	S
PLC	P
Global PLC	G

Orifice Size	Part Number
.030	3
.045	4
.060	6
.080	8
.090	9

Tower / Mounting	Part Number
Mounting Rail	W
High Capacity w/o Mounting Rail	H
High Capacity w/ Mounting Rail	J

See example of part number pictured on pg. 22



Custom dryers come with a standard 90 day manufacturer's warranty for defects in material and craftsmanship.

Suburban Manufacturing strongly recommends the use of the Tsunami Complete Drying Systems whenever possible. For more information on these complete systems see pg. 4.

MOBILE & INDUSTRIAL APPLICATION RECOMMENDATIONS



Custom regenerative dryers allow for ultimate compatibility in the following mobile and industrial applications: road striping, painting, top load pressure, spray foam trailers, inspection rooms, process equipment, assembly lines, and many others.

- Heater wraps for applications subject to temperatures below 40°F
- Tsunami pre-filters equipment with Moisture Minder Filter Drain
- PLC control mounted and assembled in NEMA 4 rated box
- No wall mounting rail required for mobile applications
- 12v air valve timer for mobile application compatibility
- Remote mounting option allows for easy plant, point of use applications



For more information on Filter Drains see pg. 10

Please contact your Suburban Manufacturing distributor when configuring custom dryers and ancillary products for specific application needs.



UNDERSTANDING YOUR PAINT SHOP

A proper understanding of your paint shops air quality needs are necessary to maximize efficiency and eliminate down time and costly rework. By supplying the following information, Tsunami Compressed Air Solutions™ can provide recommendations that will provide long term solutions to save you time and money.

For a further understand of your facility's air requirements, see Facility Analysis on pg. 15

The Spray Booth

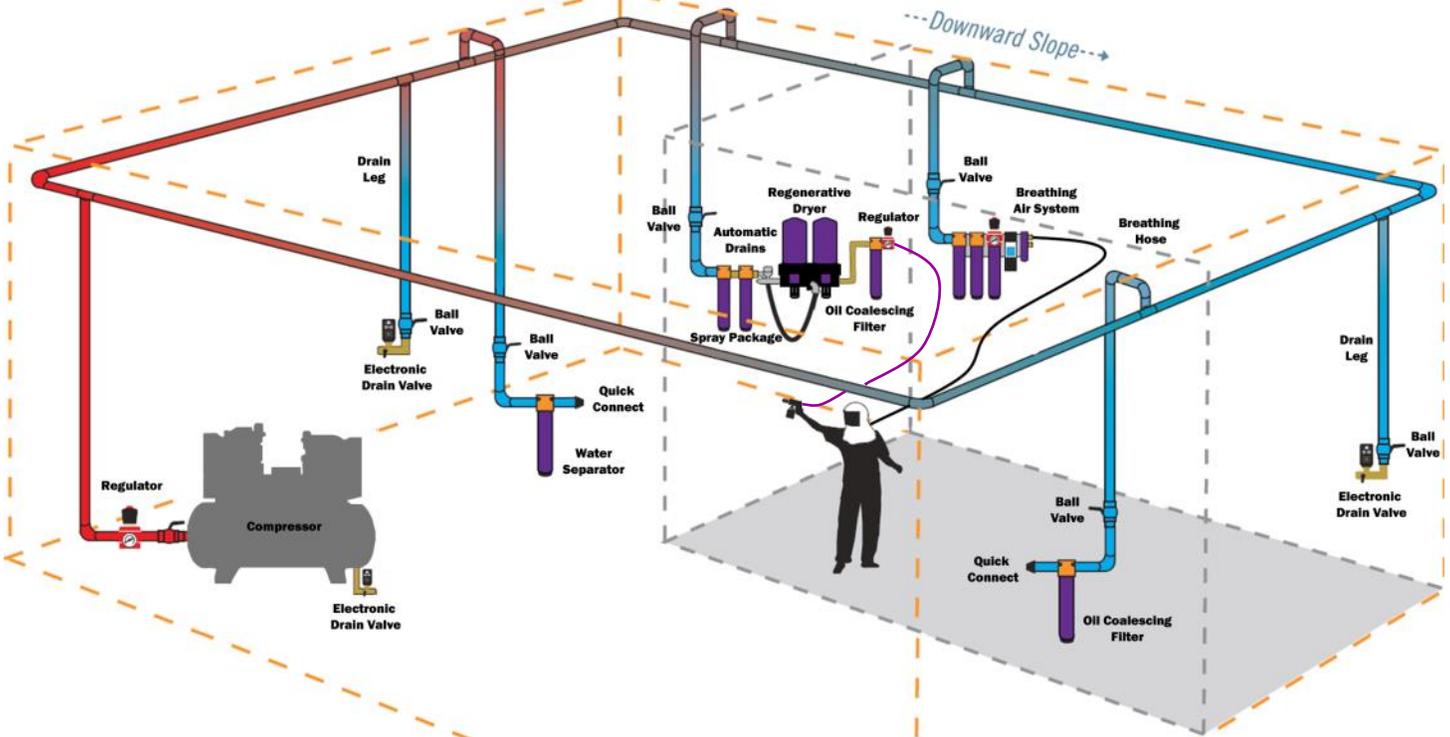
- How many spray booths are there? _____
- What type of booths do you have? ___Downdraft ___Cross Flow ___Semi Downdraft
- How many spray drops in each booth? _____
- What is the humidity reading in the booth(s)? _____%RH _____%RH _____%RH
- Is there air preparation at the booth? (filters or dryers) ___Y ___N
 - If yes, what brand or type? (ex: SATA, DeVilbiss, Sharpe, Camair, RTI, etc.) _____
- Is the shop spraying waterborne paint? ___Y ___N
 - If yes, how are you drying the basecoats? ___Booth Fans ___Handheld Blowers/Stands ___other
 - If other, what is being used? _____
- Does the shop do mostly collision work or completes? _____

The Paint Shop

- How many painters will be using the air system? _____
- How many shop employees total will be using the air system? _____
- Is the air system a looped system or a "dead end"/"dead stick system"? _____
- What is the approximate distance from the compressor to the booth? _____ Ft. (___paces)
- What is the approximate line size of the main air line? _____
- What is the approximate line size of the supply air lines used in shop? _____
- Are there air leaks in the piping, at air fittings, or air hoses? ___Y ___N
- What material is the piping made from? ___Copper ___Black Iron ___Galvanized ___PVC

(Tsunami Compressed Air Solutions™ does not recommend PVC or other plastic piping)

PROPER SHOP DIAGRAM





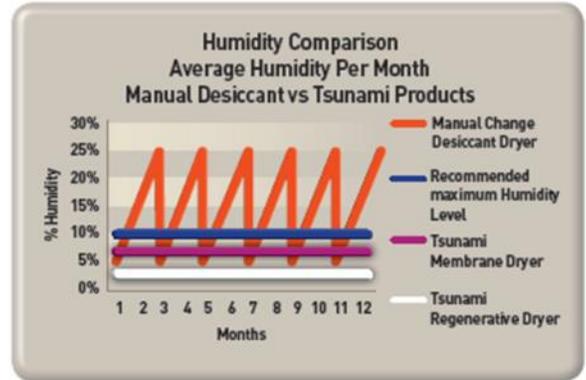
WHAT IS THE TRUE COST OF YOUR DRYING SYSTEM?

Did you buy your system because of the low upfront cost?

Do you perform maintenance as specified?

Do you know what the true cost of your current system is?

Manual change desiccant systems require you to perform maintenance by monitoring a moisture indicator. Unfortunately, when the indicator starts to change color your air has already exceeded the humidity threshold that the paint companies recommend by 100%. This results in poor paint jobs!



Footnote: Actual system results will vary based on climatic conditions, shop environment, maintenance and other factors

Annual Maintenance Cost Comparison	1 st Stage Annual Cost	2 nd Stage Annual Cost	Annual Media Cost	Year 1	Year 2	Year 3	Total Over 3 Years
Manual Desiccant Dryer Systems	\$100	\$100	\$540	\$740	\$740	\$740	\$2,220
Tsunami Membrane Dryer	\$0	\$80	\$900 *	\$80	\$80	\$980	\$1140
Tsunami Regenerative Dryer	\$0	\$90	\$440 **	\$90	\$90	\$520	\$700

* Based on a membrane core replacement after 3 years of service.

** Based on a typical 2 tower replacement in year 3.

DID YOU KNOW?

- Properly controlling air pressure throughout your shop can help save 10-15% of your compressed air energy costs.
- Repairing an audible air leak can save you \$50 or more per year in energy used to drive your compressor.
- When sizing a compressor, you can figure 2 to 2.5Hp per person, depending on the pressure setting of the compressor.
- Proper control of air volume (CFM) will make all your air drying and filtration technology perform at their rated capacity. Most pieces of equipment have a manufacturer's specification of volume consumption along with the recommended operating pressure.
- Improper use of volume can cause an "over-flowing" of the rated capacity of your equipment which causes a carry over of moisture and contaminants.



Many OSHA approved blow off guns can consume up to 35 CFM, the equivalent of a 10Hp compressor



Many color changing indicators used with desiccant systems do not change color before 20% rH.



The higher the air pressure supply to air amplifier stands used with waterborne paint increases the amount of air volume they consume.



SOLVENT & WATERBORNE SPRAY BOOTH PACKAGES

- **Waterborne Ready Systems**
- Low Relative Humidity - down to .01%
- Low Dew Points - down to -80°F
- Low cost to maintain - under \$100/yr on average
- Easy maintenance - replace coalescing filter every 6 months
- Expandable Drying Technology - Does not require buying new, larger dryer to increase shop's capacity

Single Booth Package - 1 Drop - Waterborne

Double Booth Package - 2 Drops - Solvent *

Recommended P/Ns:

- (1) 21999-0710 10Hp Tsunami Regenerative Drying System
- (1) 21999-0494 Tsunami Filtration Package #7
- (1) 21999-0449 35' Tsunami Ultra-flo Spray Hose

* Additional filter and hose needed for 2 drop solvent application



Double Booth Package - 2 Drops - Waterborne

Triple Booth Package - 3 Drops - Solvent *

Recommended P/Ns:

- (1) 21999-0715 15Hp Tsunami Regenerative Drying System
- (2) 21999-0494 Tsunami Filtration Package #7
- (2) 21999-0449 35' Tsunami Ultra-flo Spray Hose

* Additional filter and hose needed for 3 drop solvent application



4+ Booth Package - Up to 6 Drops - Waterborne

Recommended P/Ns:

- (1) 21999-0830 30Hp Tsunami Ultra Drying System
- (4+) 21999-0494 Tsunami Filtration Package #7
- (4+) 21999-0449 35' Tsunami Ultra-flo Spray Hose



For more information on Complete Tsunami Drying Systems see pgs. 4-5

SPECIALTY SPRAY PACKAGES

These filter systems should only be used for light use applications such as air brushing, waterborne gun cleaners, and spot welders. For normal to heavy use conditions, use our 50 CFM Filter packages.



Package #4 - 20CFM

P/N: 21999-0677

Special spray package with water separator, oil coalescing filter and regulator



Package #6 - 20CFM

P/N: 21999-0678

Special spray package with water separator, oil coalescing filter, activated carbon filter and regulator

For more information on 20 CFM filtration packages see pg. 7



PAINT SHOP SOLUTIONS



Maximizing your shop's performance is one of Suburban Manufacturing's main focuses. Whether drying the air for the paint shop or the entire facility, the Tsunami Ultra Drying Systems provide "the solution" for clean, dry air. Our Ultra Systems provide easy installation and additional storage which helps reduce the shop's ability to overrun the drying system.

- 3-year Warranty
- Built-in bypass circuit
- 80 gallon storage tank for storing exceptionally dry air
- Large Tsunami water separator and oil coalescing filter to pre-filter incoming air
- Moisture Minder automatic piston drains for pre-filters
- Outlet regulator allows for air conservation throughout facility
- Easy installation - unit comes preassembled (as shown)



Wall mounted units provide the best solution for your facility when space is limited. Systems are available from 10-30Hp.

For more information on Complete Tsunami Drying Systems see pgs. 4-5

****REMINDER****

Add Your Booth Filtration Package, Spray Hose and Compressor Drain Kit
****Components must be ordered separately from drying systems****

GOOD FILTRATION



Package #7 - 50CFM
P/N: 21999-0494
 Oil coalescing filter and regulator

BETTER FILTRATION



Package #4 - 50CFM
P/N: 21999-0253
 Water separator, oil coalescing filter and regulator

BEST FILTRATION



Package #6 - 50CFM
P/N: 21999-0257
 Water separator, oil coalescing filter, activated carbon filter and regulator



P/N: 21999-0449
 35' Tsunami Ultra-flo Spray Hose
P/N: 21999-0450
 50' Tsunami Ultra-flo Spray Hose



P/N: 21999-0177
 Moisture Minder EDV
P/N: 21999-0316
 EDV Basic Installation Kit





At **Suburban Manufacturing, Inc.**, our mission is to build value for our customers by producing quality, innovative, engineered, application-based products. Suburban is an engineering driven organization that partners with our customers to design and develop unique and specific solutions for multiple application specific needs in the Defense, Hydraulics, Oil & Gas, Automotive, Agriculture, Construction & Utility and Industrial markets. In addition to custom engineered solutions, Suburban offers a complete line of standard products sold under the Protective Coverings, Lubrication Systems and Tsunami brands.



Offers a complete line of protective sleeves, straps and engine blankets manufactured from a variety of custom fabrics to provide equipment and operator protection. The division manufactures custom engineered-to-order solutions per customer specifications for a wide variety of industries and specific application needs.

Offers a complete line of automatic chain oilers and grease systems. In addition, the division provides custom engineered solutions to a multitude of customers with unique applications.

Offers a complete line of products engineered to give customers dry clean air for their specific application demands. Our systems use the latest technology to provide the highest quality compressed air available.

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