SANPAR
Airing Solutions

Dry Air for Machine Tools

● Ecodrair ● Microfilters ● Drains ● Moisture Separators

Upto Air Class 1.4.1

SANPAR INDUSTRIES PVT. LTD.
SANPAR MICROFILTERS PVT. LTD.

your best partner in Utilities
not just a statement - but a Guarantee

SANPAR

ECODRAIR

Dry Air for Machine Tools

ECODRAIR cares for your

Investment	: High Returns-Longer life: No stand-by required.
Production	: No down time- consistent quality of clean Dry air.
Utility	: High Performance-Low maintenance.
Safety	: Manufactured as per design standards ISO-7183.
Environment	: Eco- friendly refrigerant with Zero ODP.
Space	: Least footprints-low floor space required

ECODRAIR is uniquely standardised

- 10 Standard Models to choose from – to meet individual requirement.
- Longer life of the components
- Anti-corrosive coating-safety against rusting.
- Low Maintenance.
- Easy to Handle- all parts easily accessible.
- High Pressure range models on request.

Why ECODRAIR is the Preferred partner of the Machine Manufacturers?

Machine manufacturers bundle their machines with ECODRAIR or recommend their machine users to use ECODRAIR along with their machines. Their confidence is on the Safety features that SANPAR offers along with the ECODRAIR.

Innovation through Experience - SANPAR has been serving these machines -Machining Centers, Laser Cutting Machines and the CMM – the Machine manufacturers and Machine users for two and a half decades!

SAFETY FEATURES - Two and a half decades of experience- designed from the field feedback!
ECODRAIR is loaded with essential and critical safety features to the protect the Machine tools from malfunctioning due the sudden power breakdown. It protects the pneumatic accessories in the machine tools from getting contaminated by oil and water vapour even for a moment!

Compressed air delivered by the Air Compressor contains moisture/ water. It also contains dust and is contaminated by degraded lubricating oil from the air Compressor.

Air Bearings, all pneumatic tools, cylinders, valves and other production processes get affected by dirty compressed air resulting in:

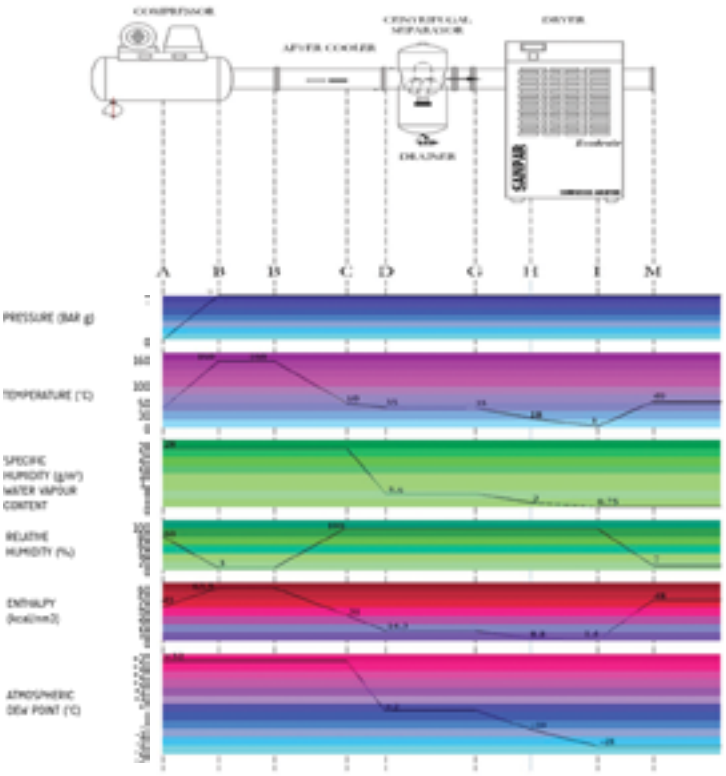
- Machinery down-time.
- Production loss.
- Product rejection.
- High maintenance cost.

Why CLEAN and DRY AIR for Production Machineries?

Clean and dry Compressed Air is the need of the hour for any manufacturing unit, as the manufacturing processes adopt automation and the accuracy of the machined components getting more critical than ever. Sophisticated production machines like Machining Centers, Laser Cutting Machines and Coordinate Measuring Machines (CMM) need clean and DRY Compressed air with regulated pressures and safety measures to ensure that wet air do not enter the Air Bearings or the pneumatic cylinders at any given point of time.

The consistency of the delivery of clean and dry air by the Compressed Air Dryer thus assume greater dimensions as the quality of air determines the productivity, product quality and reputation of the organization.

ECODRAIR from the staple of SANPAR is the solution and the first choice of the major manufactures of such sophisticated machine manufacturers – National and International brands!



DISPLAY PANEL

On line Digital Display of Dew point Temp. Displays the real time temperature unlike the band type display. 4-20mA digital output is available on request

COMPRESSOR

- Fully Hermetically sealed.
- Eco-friendly refrigerant compressor.
- High efficiency with High EER.
- Noise level less than 60dB
- Switch and overload protector.
- Robust motor/ rugged construction.
- Low Power consumption.
- Mounted on anti-vibration bushes

HEAT EXCHANGER

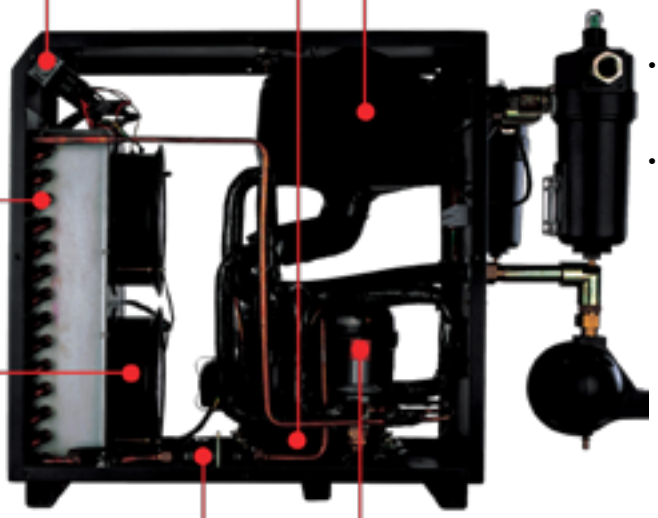
- Compact and innovative Tube-in-Tube
- Integrated Air to Air heat exchanger saves more than 55% power.
- Pure Coil Copper tubes for efficient heat transfer.
- Low pressure drop.

CONDENSER

Air cooled aluminum fins and Copper tubes.

CENTRIFUGAL SEPARATPR:

- Centrifugal cum demister type separator (SS316L demister)
- Complete removal of condensate even during partial load.
- Prevent carry-over of mist particles to downstream line.



CONDENSER FAN

- Power saving robust motor.
- Bigger angled blades for effective cooling.
- High airflow fan.
- Maintain condensing temperature.
- Reduce power consumption with cut in /cut off feature.
- Condensing temperature pre-set.
- Reliable as it is temperature controlled.

EXPANSION DEVICE

- Unique design to get optimum cooling
- 100% conversion to liquid entering the evaporator
- Maximum heat transfer between Refrigerant & air.
- No fluctuating Dew Point.

MODULATING CAPACITY CONTROLLER

- Handles partial thermal load.
- Dry air under all operating conditions.
- Avoid Liquid return to compressor.
- Maintains Suction pressure.
- Avoids freezing in the evaporator.
- Exclusive use of CFC free insulation.
- Eco-friendly

TECHNICAL SPECIFICATION

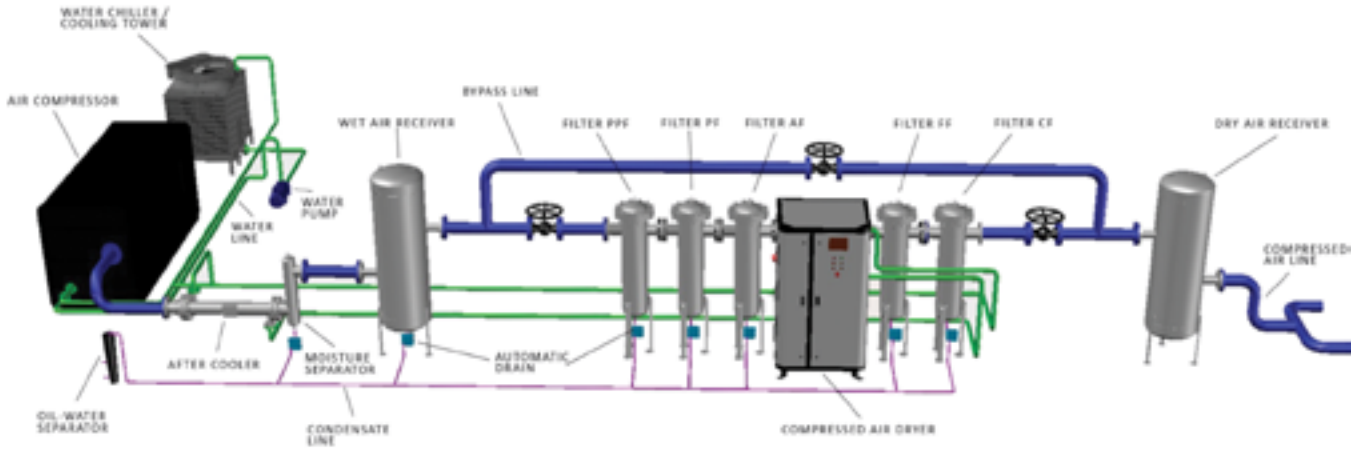
CAT MODEL	REFRIGERENT	CAPACITY	PR DROP	POWER CONSUMPTION	POWER SUPPLY	END CONNECTION
		CFM (FAD)*	BAR(G)		V	
CAT-D1-3A	R134a	10	0.15	0.245	230+-10%	1/2" BSP
CAT-D1-5A	R134a	20	0.15	0.245	230+-10%	1/2" BSP
CAT-D1-9A	R134a	30	0.15	0.45	230+-10%	1" BSP
CAT-D1-12A	R134a	42	0.15	0.45	230+-10%	1" BSP
CAT-D1-16A	R134a	55	0.15	0.675	230+-10%	1" BSP
CAT-D1-20A	R134a	70	0.15	0.675	230+-10%	1" BSP
CAT-D1-24A	R134a	85	0.15	0.975	230+-10%	1 1/2" BSP
CAT-D1-28A	R134a	100	0.15	0.975	230+-10%	1 1/2" BSP
CAT-D1-35A	R134a	125	0.15	1.38	230+-10%	2" BSP
CAT-D1-42A	R134a	150	0.15	1.53	230+-10%	2" BSP

*Capacity indicated in FAD with operating pressure 7 kg/cm²g

The flow rates indicated are at following operating parameters:

Air Inlet Temperature : 45°C
Air Inlet Pressure : 7 kg/cm²g
Condenser Cooling Air : 20 - 45°C
Pressure Dew Point : +30C - ISO 8573.1 , Class 4
Operating Range : 4-16 kg/cm²g

How to install Ecodair & Accessories AIR QUALITY ISO - 8753.1



Inlet Temp (°C)	35 1.22	40 1.21	45 1.00	50 0.82
Cooling Factor (°C)	30 1.16	35 1.08	40 1.00	45 0.92
Pressure (kg/cm²g)	3 0.60	5 0.80	7 1.00	9 1.20
PDP (°C)	3 1.00	6 1.16	10 1.46	

High Pressure Dryer available on request.

Compressed Air
MICROFILTERS

SANPAR brings to you the state-of-the-art compressed air filters. These filters are aptly designed to take care of the problems related with the dust & oil contaminants. The technology is right for the industry and is brought from the leaders in the field of compressed air treatment.

30 different sizes of filters to suit to every requirement without compromise. Choose the right grade to suit the application conforming to ISO 8573.1 class for optimum performance

Filter Grade PPF: Pleated Stainless Steel Mesh.
Air Quality: Bulk liquid and particle removal down to 25 micron

Filter grade PF: Pleated Cellulose Acetate
Air quality: Bulk Liquid and particle Removal down to 3 microns.

Filter grade AF: Pleated Borosilicate Glass Fibre
Air quality: Liquid and particle removal down to 0.1 micron. Residual oil content 0.5 mg/m^3

Filter grade FF: Pleated Borosilicate Glass Fibre
Air quality: Liquid and particle removal below 0.01 micron. Residual oil Content 0.01mg/m^3

Filter grade CF: Activated carbon bed.
Air quality: Residual oil content 0.005mg/m^3 Free of odor & oil vapour.

Threading with warning alarm: There is a built-in safety whistle which gives you warning when the filter is not properly sealed. The BSP threading are trapezoidal to ensure proper engagement and easy removal

Differential Pressure Gauge: This online gauge constantly gives the visual indication about the pressure drop across the filter cartridge to ensure that the filter elements are changed not too early not too late - A gadget to save energy

Differential Pressure Indicator: The body is constructed in Plastic / Acrylic, that has light indicators to signal clog and shelf life of of the filter element.

Condensate Level Indicator: The special feature enables to have a visual inspection of the condensate accumulated at the bottom of the filter. This monitors the drain's performance or to know when to drain-off, if in case Manual Drain is fitted.

Filtration Technology-Pleated Borosilicate Glass Fibre Filter Elements-High Flow; Long life.

Borosilicate Glass Fiber is the latest filter media which is used for filtration of compressed air with respect to aerosol particles of oil and hydrocarbons. It is very high volume (96%) and hence it has very high dirt holding capacity with very low pressure drop. The pleated Borosilicate glass fibre media enhances the filtration are multi-fold thus increasing the life of the filter element.

Construction of Housing: Tie-rod free elements

The special aluminum alloy die cast housing is build using a computer aided design to get an aerodynamic flow of compressed air. Both the internal and external are chemically treated to prevent corrosion for special gas application. The outer surface is again finished with epoxy coating and anti-corrosive paint.

Easy Push -fit of element: (Free from tie-rod)

Allows fixing of the element without the hazzles of messy threading or tie-rod tightening

Air Quality standards as per ISO 8573.1

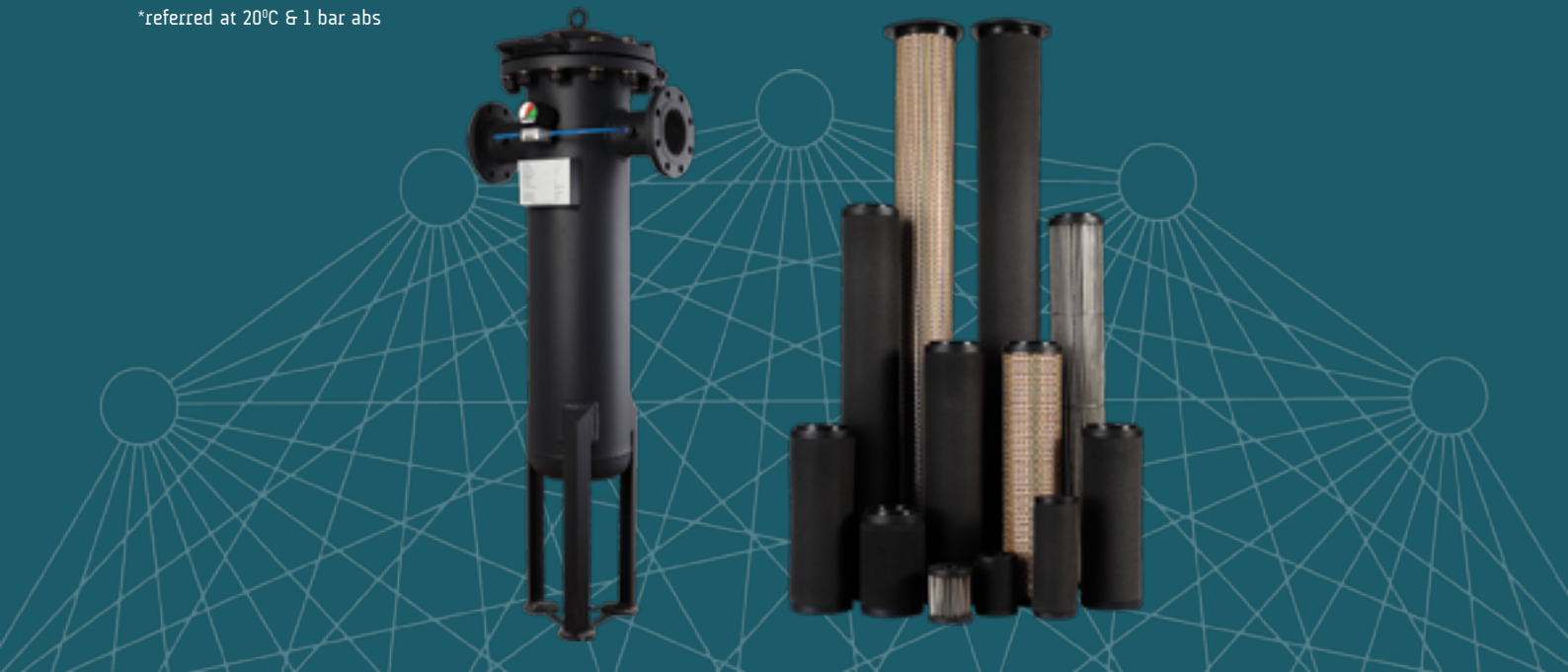
class	max. Particle size micron	Pressure dewpoint ^{0}C @ 7 bar g	Max. oil concentration * mg/m^3
1	0.1	-70	0.01
2	1	-40	0.1
3	5	-20	3
4	15	+3	5
5	40	+7	25
6	-	+10	-

*referred at 20^{0}C & 1 bar abs

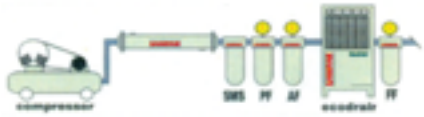
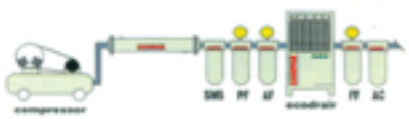
Choose the filter grade

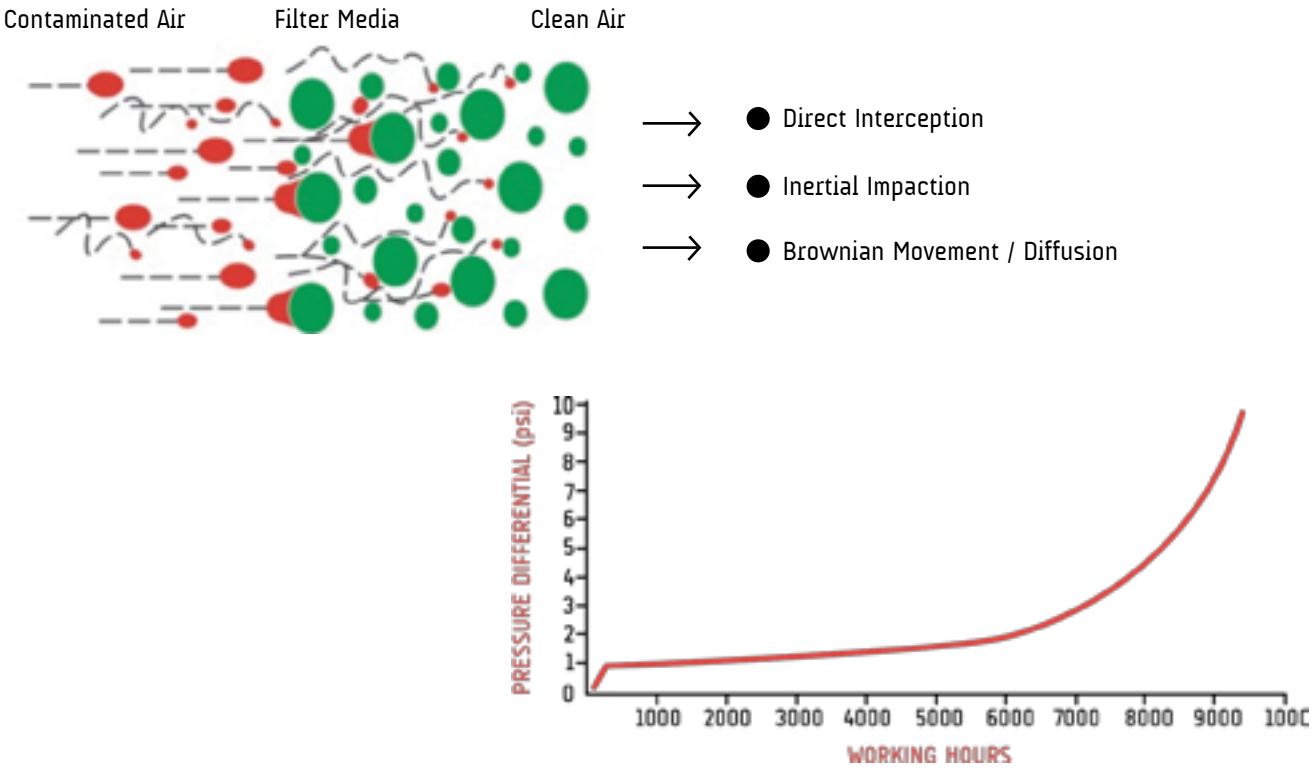
class	max. Particle size micron	Max. oil concentration * mg/m^3	initial pressure drop bar
PF	3	NA	0.02
AF	0.1	0.01	0.05
FF	0.01	0.01	0.08
CF	-	0.005	0.06

*referred at 20^{0}C & 1 bar abs



Layout configuration based on application conforming to ISO 8753.1

APPLICATION	CIRCUIT LAYOUT	WITHOUT DRYER	WITH DRYER	APPLICATION
Simple Dust Filtration		3.	3.4	Dust filter for desiccant dryers. Bulk dust removal, Prefilter to AF & FF grade filters
General Purpose		3.	3.4	General engineering, Bulk particle removal, Heavy pneumatic tools, Air Blowers. Prefilter to vacuum pump
Oil Removal		2,-,2	2.4.2	Bulk liquid removal. Pneumatic tools / controls. Air Motors / Conveyers. Sand blasting, Shipyards and off -shore. Prefilters to desiccant dryers. AF filters to FF & CF grade filters
Oil aerosol Removal- oil free		1.-.1	1.4.1	Spray Painting, air bearing analytical instrumentation, air gauging, precession pneumatic tools / regulators cnc machines, packaging. Pre-filter to desiccant dryers - oil free air. Pre-filter to ff & cf grade filters
Totally oil free		1.-.1	1.4.1	Process air, harmaceuticals, Food and Beverages, Medical, Hospitals, Photographic labs, Critical instrumentation, Dairy, Galvanizing. Smell & taste removal, Breathing, Aviation
Bone dry air		N.A	1.3.1(-20°C) 1.2.1(-40°C) 1.1.1(-70°C)	All the above application, but with very low dew point, in industries like Hospitals, Dairy, Refineries, Aviation, Plastics, etc...



TECHNICAL SPECIFICATION

MODEL	MOC	CAPACITY	ELEMENT	NUMBER OF ELEMENT	DRAIN	END CONNECTION
		CFM (FAD)*				
CAT-M1.5-12	DIE-CAST ALUMINUM	45	CAT-E12	1	SID	1/2" BSP
CAT-M1.34-20		70	CAT-E20	1	SID	3/4" BSP
CAT-M1.1-23		80	CAT-E23	1	SID	1" BSP
CAT-M1.1-33		116	CAT-E33	1	SID	1" BSP
CAT-M1.15-33		116	CAT-E33	1	SID	1 1/2" BSP
CAT-M1.2-33		116	CAT-E33	1	SID	2" BSP
CAT-M1.1-37		130	CAT-E37	1	SID	1" BSP
CAT-M1.15-37		130	CAT-E37	1	SID	1 1/2" BSP
CAT-M1.2-37		130	CAT-E37	1	SID	2" BSP
CAT-M1.1-50		180	CAT-E50	1	SID	1" BSP
CAT-M1.15-50		180	CAT-E50	1	SID	1 1/2" BSP
CAT-M1.2-50		180	CAT-E50	1	SID	2" BSP
CAT-M1.1-60		210	CAT-E60	1	SFD 320	1" BSP
CAT-M1.15-60		210	CAT-E60	1	SFD 320	1 1/2" BSP
CAT-M1.2-60		210	CAT-E60	1	SFD 320	2" BSP
CAT-M1.15-75		260	CAT-E75	1	SFD 320	1 1/2" BSP
CAT-M1.2-75		260	CAT-E75	1	SFD 320	2" BSP
CAT-M1.15-85		300	CAT-E85	1	SFD 320	1 1/2" BSP
CAT-M1.2-85		300	CAT-E85	1	SFD 320	2" BSP
CAT-M1.15-115		400	CAT-E115	1	SFD 320	1 1/2" BSP
CAT-M1.2-115		400	CAT-E115	1	SFD 320	2" BSP
CAT-M1.15-150		500	CAT-E150	1	SFD 320	1 1/2" BSP
CAT-M1.2-150		500	CAT-E150	1	SFD 320	2" BSP
CAT-M2-150	CARBON STEEL	500	CAT-E180	1	STD 450	DN 80
CAT-M2-283		1000	CAT-E180	2	STD 450	DN 100
CAT-M2-425		1500	CAT-E180	3	STD 450	DN 100
CAT-M2-566		2000	CAT-E180	4	STD 450	DN 150
CAT-M2-850		3000	CAT-E180	6	STD 450	DN 150
CAT-M2-1130		4000	CAT-E180	8	STD 450	DN 200
CAT-M2-1420		5500	CAT-E180	10	STD 450	DN 200

*Capacity indicated in FAD with operating pressure 7 kg/cm^{2}g

Correction factor "f" for different working pressures

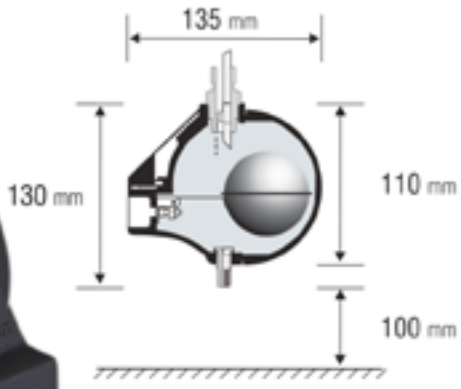
BAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	0.25	0.380	0.50	0.65	0.75	0.88	1	1.13	1.25	1.38	1.50	1.63	1.75	1.88	2	2.13

The maximum operating temperature of filters is 60^{0}C and minimum is 1.5^{0}C, Filter housings are of aluminum alloy die cast. Manual drain is standard. Higher pressure, Higher Capacity and other Gas filter specification are on request

High pressure filters available on request

Condensate
DRAINS
Zero Air Loss

Dimensions



SFD Float Type:

- Non Corrosive
- Mechanical Float
- Life Long Service
- Negligible Maintenance
- Resistance to high Temperatures
- Convenient 1/2" BSP(F) Connection
- Maximum Operation Pressure 20 Bar

For effective removal of Condensate from:

- Filters
- Separators
- Receivers
- Ref. Dryers
- After Coolers
- Inter Coolers
- Droplegs, etc.

Material of Construction:

- Housing : Aluminium
- Float : Plastic
- Lever : Stainless Steel
- Manual Drain : Brass

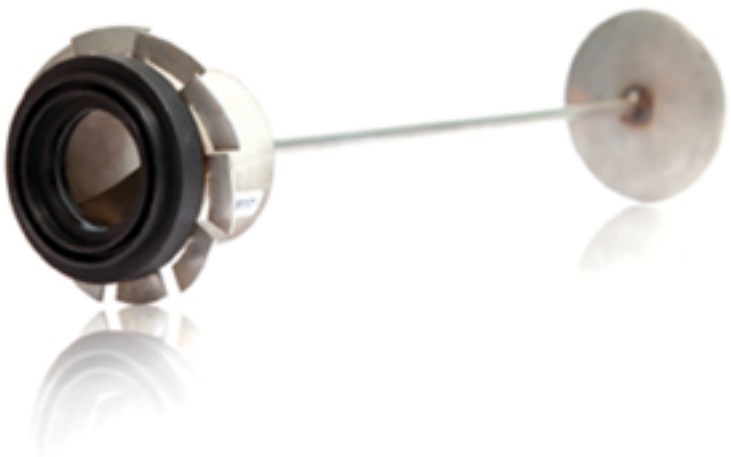
Our Other Range of Auto Drains:

SID: Float Type
(Suitable for Internal Mounting)
Size: ½" BSP (M)

STD: Timer Controller
Strainer with Isolation Valve
Size: ½"BSP(M)

High Pressure Drains (upto 70 bar) & Different material of construction for Specific applications available on request.

Centrifugal
MOISTURE SEPARATOR



Salient features of Sanpar Moisture Separator

- Very high efficiency(more than 99%)
- Non corrosive Aluminum die cast body
- Compact Design
- Maintenance Free
- Long life
- Manual drain and auto drain facility
- Consistent pressure drop of 0.07 kg/cm^2

TECHNICAL SPECIFICATION				
CAT MODEL	MOC	CAPACITY CMF (FAD)*	DRAIN	END CONNECTION
CAT-S1.5-12	DIE-CAST ALUMINUM	45	SFD 320	1/2" BSP
CAT-S1.34-20		70	SFD 320	3/4" BSP
CAT-S1.1-35		100	SFD 320	1" BSP
CAT-S1.15-35		125	SFD 320	1 1/2" BSP
CAT-S1.2-35		125	SFD 320	2" BSP
CAT-S1.1-70		250	SFD 320	1" BSP
CAT-S1.15-70		250	SFD 320	1 1/2" BSP
CAT-S1.2-70		250	SFD 320	2" BSP
CAT-S1.15-85		300	SFD 320	1 1/2" BSP
CAT-S1.2-85		300	SFD 320	2" BSP
CAT-S1.15-113		400	SFD 320	1 1/2" BSP
CAT-S1.2-113		400	SFD 320	2" BSP
CAT-S1.15-135		480	SFD 320	1 1/2" BSP
CAT-S1.2-135		480	SFD 320	2" BSP
CAT-S1.2-170		600	SFD 320	1 1/2" BSP
CAT-S1.2-170		600	SFD 320	2" BSP
CAT-S2-283	CARBON STEEL	1000	STD 240	DN 100
CAT-S2-425		1500	STD 240	DN 100
CAT-S2-566		2000	STD 240	DN 150

*Capacity indicated in FAD with operating pressure 7 kg/cm^{2}g

High pressure moisture seperator available on request

ISO 9001:2015
AS9100D

CE

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