



»»» MSS
4 - 75 kW
Oil-injected Screw
Compressors
MDS
10 - 260
Refrigerant Dryers

Smart & Simple
Compressed Air Solutions
with Outstanding Value





User benefits

Reliability

- Mark brand
- Worldwide reputation over 50 years
- Reliable components
- Quiet and trouble-free operation
- Independent cooling fan
- Asymmetric profile rotors

Uncompromised Quality

- ISO 9001· ISO 14001 quality assurance
- OHSAS 18001 quality assurance
- World renowned screw element
- Industry proven electric motor
- Vertical separator tank

Simplicity

- Base mounted design
- Simple controller
- Belt drive
- Offers a simple plug-and-play solution
- Easy installation
- No special foundation needed

Easy Serviceability

- Easy access from front side
- Vertical cooler for easy cleaning
- Service and cleaning is a one person job
- Spin on spin off filters

Safety

- Emergency stop
- General alarm
- Fault shut down & alarm function
- Reverse rotation protection
- Maintenance alarm
- Motor overload protection

MARK HISTORY

Mark was established in 1970, and 4 years later, it started to sell piston compressor to foreign countries. The export business was proved to be very successful and promoted the rapid development of the company. By 1988, over 10,000 screw compressors had been in operation in Europe, and 100,000 worldwide.

Today, MARK has a global customer base, with local customer centers around the world.

MARK air compressors are tailored to the needs of the light industry and assembly production.

Every day we develop and manufacture new products that are meant to meet your demands not only today, but tomorrow as well.



Oil injected screw compressors and refrigerant dryers plant: Pan-Asia, Wuxi

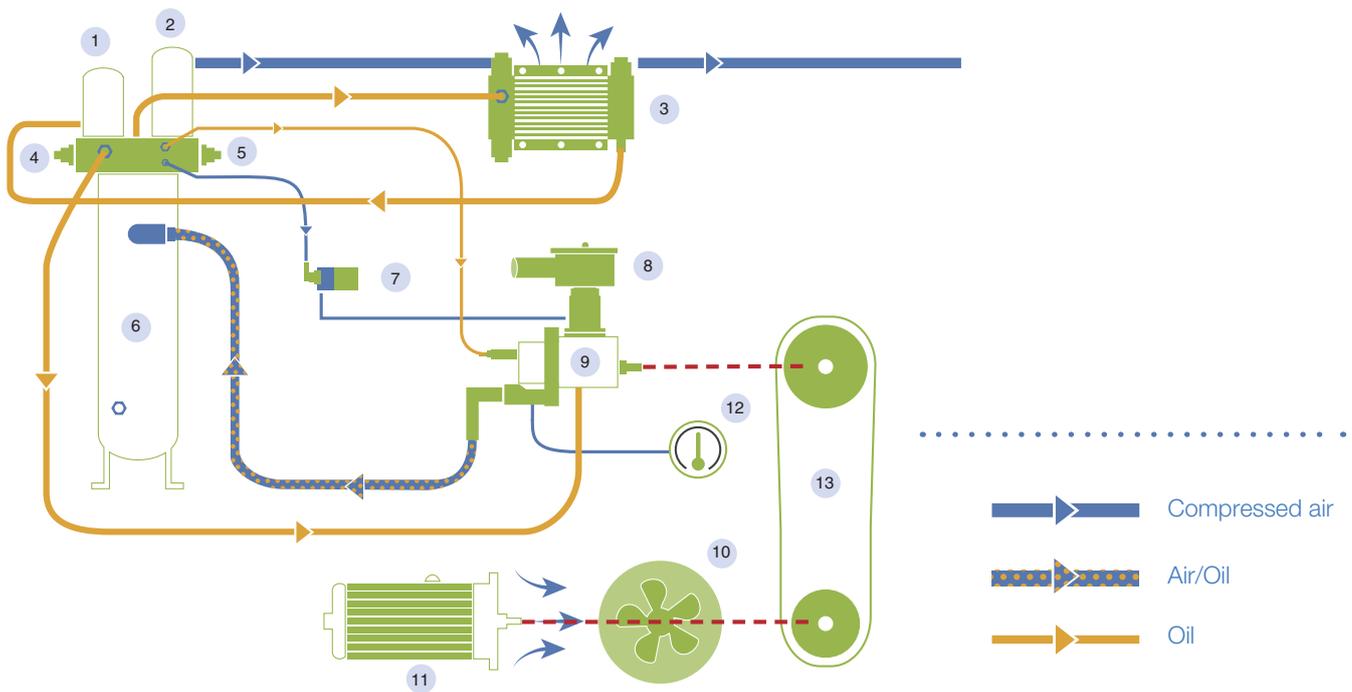


Oil injected screw compressors and refrigerant dryers plant: Pan-Asia, Wuxi



OPTIMISED OPERATING FLOW

The flow diagram below illustrates the operating process which makes the MSS range into a compact and efficient compressor.



COMPONENTS

- | | | |
|----------------------|------------------------------|---------------------------------|
| 1 oil filter | 6 oil vessel | 10 independent fan |
| 2 air-oil separator | 7 air suction solenoid valve | 11 electric motor |
| 3 oil-air cooler | 8 air suction filter | 12 temperature probe/thermostat |
| 4 thermostatic valve | 9 screw compressor | 13 transmission unit |
| 5 safety valve | | |

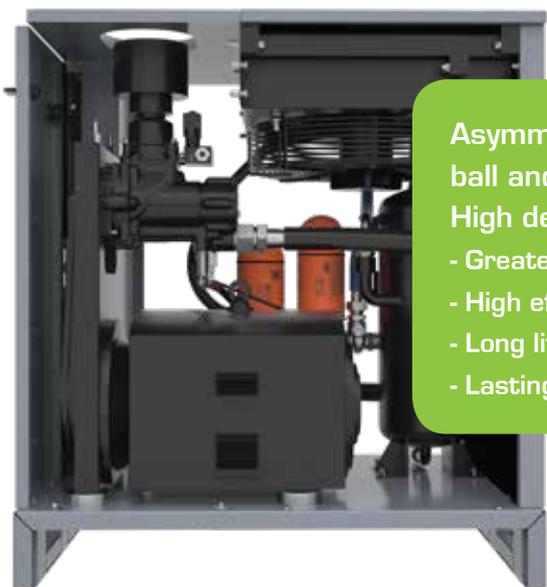


Spare parts distribution center: Belgium and Shanghai



Oil and water injected screw compressors plant: Belgium

SMART TECHNICAL ADVANTAGES



- Asymmetric profile rotors mounted on high quality ball and roller bearings
High degree of sealing and the fine tolerances guarantees
- Greater yield
 - High efficiency
 - Long life & reliability
 - Lasting performance

Simple user friendly controller with outstanding functions

- Color coded on/off buttons
- LCD display
- Service warnings
- Fault indication & re-set function
- Reverse rotation protection



Horizontal design bring high efficiency internally cooling

Fast service pre-filtration

- Smart slot design make quick service
- Easy clean with washing or air blowing



Mark compressors have an in-house designed belt drive system that offers

- Easy maintenance
- Simple installation
- User-friendly low noise operation
- The standard in the industry

TECHNICAL DATA

Model	Working Pressure	Motor Power		Capacity			Noise Level	Weight	Connection	Dimensions (mm)
	 Mpa	 HP	kW	 l/s	CFM	m³/min	 dB(A)±2	 KG	 G	LxWxH
MSS 4	0.8	5.5	4	9	18	0.51	66	130	1/2	650x650x890
	1.0			8	16	0.46				
MSS 5.5	0.8	7.5	5.5	13	28	0.8	66	160	1/2	650x650x890
	1.0			11	23	0.65				
MSS 7.5	0.8	10	7.5	18	37	1.05	66	167	1/2	650x650x890
	1.0			14	30	0.85				
MSS 11	0.8	15	11	27	58	1.6	72	230	3/4	850x650x930
	1.0			23	48	1.4				
MSS 15	0.8	20	15	33	70	2.0	73	230	3/4	850x650x930
	1.0			31	65	1.8				
MSS 18.5	0.8	25	18.5	49	103	2.9	72	330	1	710x740x1275
	1.0			41	87	2.5				
MSS 22	0.8	30	22	55	117	3.3	72	345	1	710x740x1275 (380V) 710x840x1275 (400V)
	1.0			46	98	2.8				
MSS 30	0.7	40	30	82	174	4.9	79	490	1.5	860x850x1345
	0.8			78	166	4.7				
	1.0			63	132	3.8				
MSS 37	0.7	50	37	97	204	5.8	79	524	1.5	860x850x1345
	0.8			95	201	5.7				
	1.0			83	176	5.0				
MSS 45	0.7	60	45	116	246	7.0	75	650	1.5	1320x970x1380
	0.8			103	218	6.2				
	1.0			93	197	5.6				
MSS 55	0.7	75	55	144	304	8.6	78	875	2	1574x1159x1718
	0.8			134	286	8.1				
	1.0			115	244	6.9				
MSS 75	0.7	100	75	199	420	11.9	79	1107	2	1574x1159x1718
	0.8			177	374	10.6				
	1.0			161	339	9.6				
MSS 4 TM	0.8	5.5	4	9	18	0.51	66	274	1/2	1547x650x1473
	1.0			8	16	0.46				
MSS 5.5 TM	0.8	7.5	5.5	13	28	0.8	66	304	1/2	1547x650x1474
	1.0			11	23	0.65				
MSS 7.5 TMDD	0.8	10	7.5	18	37	1.05	66	358	1/2	1547x650x1473
	1.0			14	30	0.85				
MSS 11 TMDD	0.8	15	11	27	58	1.6	72	430	1	1537x650x1430
	1.0			23	48	1.4				
MSS 15 TMDD	0.8	20	15	33	70	2.0	73	430	1	1537x650x1430
	1.0			31	65	1.8				

Power supply: 380V & 400V. Please contact local sales team if any other requirements

User benefits

Reliability

- Mark brand
- Worldwide reputation over 45 years
- Reliable components
- Largest air dryer manufacturer
- Fault alarm function

Simplicity

- Compact design
- Simple technology
- Easy maintenance
- Simple controller
- Simple timer solenoid drain
- On-off switch

Uncompromised Quality

- ISO 9001 · ISO 14001 quality assurance
- OHSAS 18001 quality assurance
- World renowned refrigerant compressor
- Industry proven fan motor
- In-house engineered condenser and evaporator
- International standard refrigeration gases

Easy Installation & Serviceability

- Inlet-outlet from the top
- Easily removable side panels
- Easily serviceable
- Easy setting of drain intervals

»» PDP INDICATOR

The operation of the MDS dryer is monitored by an electronic controller indicating all relevant information:



Technical details:

- Status of the refrigerant dryer
- Status of the fan
- Dewpoint indication

Alarm display:

- Alarm about high or low failure
- Fan Failure
- Low or high refrigerant pressure

»» SIMPLE TIMER OPERATED DRAIN DISCHARGE



The refrigerant dryer range is equipped with a simple timer operated condensate drain discharge. Easy to set and adjust the condensate drain interval and drain operating period.

Highest quality brand in Industry, reliable and efficient.



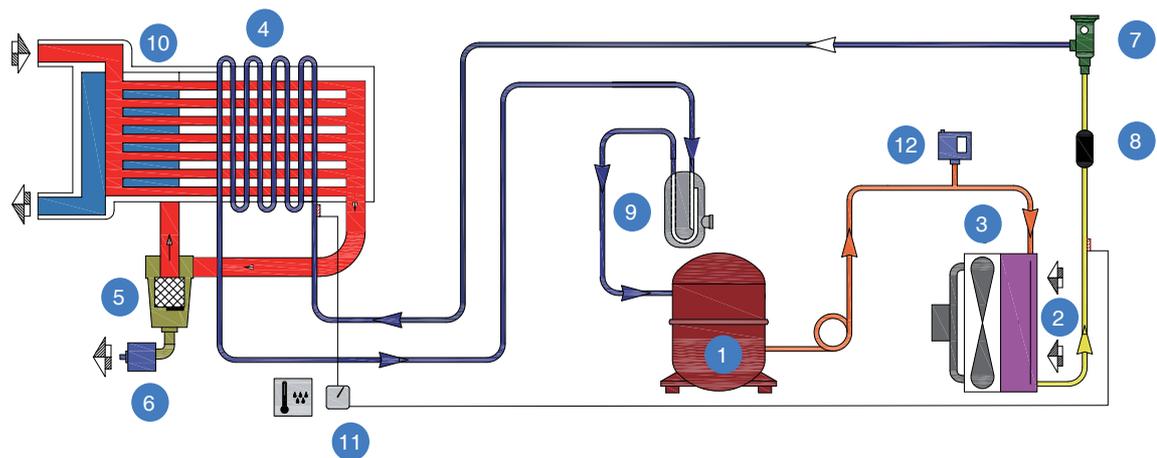
HOW DOES MDS DRYER WORK?

»» REFRIGERANT CIRCUIT

The refrigerant circuit compresses and expands the refrigerant medium in a circular system in order to efficiently transfer heat from the wet compressed air to the atmosphere. The MDS dryer's refrigerant circuit is designed as a whole and only uses components of high and reliable quality, supplied by globally recognized manufacturers.

»» AIR CIRCUIT

Wet compressed air flows directly through the MDS dryer's internal 3-in-1 heat exchanger, wherein the 3 key dryer functions are combined. Firstly the wet compressed air is cooled down to condensate the moisture, secondly this condensed moisture will be collected and drained out. Finally the dried compressed air is re-heated before it enters the factory's pipework.



- | | | | |
|---|-----------------|----|-------------------------------------|
| 1 | Compressor | 7 | Expansion Valve |
| 2 | Freon Condenser | 8 | Freon Filter |
| 3 | Fan Motor | 9 | Suction Filter |
| 4 | Evaporator | 10 | Air-Air Exchanger |
| 5 | Separator | 11 | Digital Reader / Digital Controller |
| 6 | Drain | 12 | High Pressure Switch R410A |

THE SMART CHOICE FOR HIGH RELIABILITY

COMPONENTS

1 REFRIGERANT COMPRESSOR

Driven by an electric motor, cooled using refrigerant fluid and protected against thermal overload

2 REFRIGERANT CONDENSER

Air-cooled and with a large exchange surface for efficient thermal exchange

3 MOTOR-DRIVEN FAN

For the condenser cooling air flow

4 3-IN-1 ALUMINUM HEAT EXCHANGER

With integrated air-to-air heat exchanger, air to refrigerant evaporator, and water separator. High efficient heat transfer & high efficient water separate, low pressure drop

5 ON/OFF SWITCH

Reliable simple on/off switch to turn on and off the dryer

6 AUTOMATIC DISCHARGE OF CONDENSATE

User adjustable
Timer solenoid drain
Reliable and time
Proven design

7 CONTROL PANEL

Indicating all relevant information



Only original parts extend your compressor's lifetime, reduce maintenance costs and maximize efficiency



TECHNICAL TABLE

Model	Max Working Pressure	Air Treatment Capacity			Nominal Power	Electrical	Connection	Dimension	Weight	Refrigerant
	 Bar	 I/s	CFM	m ³ /min	 kW	 V/Ph/Hz	 G	 LxWxH (mm)	 kg	
MDS 10	13	16.6	35.3	1.0	0.21	230/1/50	3/4	352x430x445	30	R 134a
MDS 13	13	21.6	45.9	1.3	0.36	230/1/50	3/4	550x370x704	30	R 134a
MDS 21	13	35.0	74.1	2.1	0.36	230/1/50	3/4	550x370x704	34	R 134a
MDS 40	13	66.6	141.2	4.0	0.70	230/1/50	1	520x500x809	55	R 410A
MDS 66	13	110.0	233.0	6.6	0.95	230/1/50	1.5	520x500x809	60	R 410A
MDS 85	13	141.6	300.2	8.5	0.98	230/1/50	1.5	550x600x958	68	R 410A
MDS 105	13	175.0	370.8	10.5	1.00	230/1/50	2	550x600x958	75	R 410A
MDS 140	13	233.3	494.4	14.0	1.67	230/1/50	2	900x750x1009	110	R 410A
MDS 175	13	291.6	618.0	17.5	1.75	230/1/50	2	900x750x1009	126	R 410A
MDS 220	13	366.3	776.6	22.0	2.85	230/1/50	2.5	1050x660x1130	140	R 410A
MDS 260	13	433.0	917.8	26.0	2.95	230/1/50	2.5	1050x660x1130	162	R 410A

Correction factor for condition differing from the project $K = A \times B \times C$

Ambient temperature (A)						
Ambient Temperature (°C)	25	30	35	40	45	
Multiplication Factor	1	0.91	0.81	0.72	0.62	

Inlet temperature (B)							
Inlet Temperature (°C)	25	30	35	40	45	50	55
Multiplication Factor	1	1	1	0.82	0.69	0.58	0.49

Inlet pressure (C)						
Pressure (bar)	6	7	8	10	13	
Multiplication Factor	0.96	1	1.03	1.08	1.13	

- MDS design working condition: environment temperature 30°C, intake temperature 40°C
- The maximum pressure drop: less than 0.3 bar
- The new flow rate value can be obtained by dividing the current or real flow rate by the correction factor related to the real operation conditions.

»» ENVIRONMENTAL FRIENDLY REFRIGERANT GASES

A key objective in the design of the MDS dryer was to deliver a product that offers performance, reliability and safety with the lowest possible environmental impact.

- Environmentally friendly thanks to the use of R134a and R410a gas
- No impact on the ozone layer
- R410a gas has exceptional properties:
 - Very low global warming potential (GWP)
 - Energy saving by use of rotary refrigerant compressor



QUALITY FILTRATION FOR HIGH RELIABILITY



The high quality air to meet the demand of downstream devices and processes:

- Clean air extends the lifetime of terminal air consumption devices, and bring higher air quality
- Protect the devices against rust by eliminating the impurities in the air
- The high-efficiency instruments extend the unit lifetime, reduce maintenance cost, and improve the production process
- The filter integrity is static, while the filter is removable, it brings easy installation and maintenance

MLF filter Fineness Classification

- Nominal pressure: 7bar
- Max. pressure: 16bar
- Nominal temperature: 40°C
- MLF is equipped with manual drain valve

Model	Nominal Capacity			Connection Port	Dimension L×W×H(mm)	Weight
	l/min	m ³ /h	cfm			
MLF 9	720	43	25	3/8"	417×106×96	1
MLF18	1500	90	53	1/2"	417×106×96	1.1
MLF 25	2100	126	74	1/2"	417×106×96	1.3
MLF 35	3000	180	106	1"	436×148×121	1.9
MLF 60	4800	288	170	1"	436×148×121	2.1
MLF 105	8400	504	297	1 1/2"	630×180×152	4.2
MLF 140	11400	684	403	1 1/2"	630×180×152	4.5
MLF 175	15600	936	551	1 1/2"	630×180×152	4.5
MLF 260	21600	1296	763	2"	720×212×190	6.9
MLF 380	31500	1890	1112	3"	820×240×230	11
MLF 490	40500	2430	1430	3"	990×240×230	12.6

* Reference condition: pressure 7bar (102psi). Maximum operating temperature of 66°C and 35°C, only for V series. Minimum operating temperature of 1°C.

Filter Correction Factor Under Different Pressures

Working Pressure	1	2	3	4	5	6	7	8	10	12	14	16
Correction Factor	0.38	0.53	0.65	0.75	0.83	0.92	1	1.06	1.2	1.31	1.41	1.5

MLF Filter Fineness Classification

Label	Filter Type	Oil Content	Test Method	Initial Pressure Drop (bar)	Max Ambient Temperature (°C)
G	Standard fine filter	0.1ppm	ISO 12500-1 ISO 8573-2	0.12	66
C	Super-fine filter	0.01ppm	ISO 12500-1 ISO 8573-2	0.14	66
V	Active carbon filter	0.003ppm	ISO 8573-5	0.16	35

CONDENSATE REMOVAL & TREATMENT

»»» AUTOMATIC DRAINS



MFD 85



MZD 800



MED 320

Model	Inlet	Outlet	Max Pressure	Min Temp	Max Temp	Nominal Discharge	Capacity
MFD 85	1/2"	6mm	16bar	1.5°C	85°C	22ml	84L/Hr
MZD 800	1/2"	1/2"	16bar	1.5°C	85°C	90ml	800L/Hr

Model	Inlet	Outlet	Max Pressure	Min Temp	Max Temp	Voltage
MED 320	1/2"	6mm	15bar	1.5°C	55°C	230V/1P/50-60Hz

Supply with 1.2 meter lead

»»» OIL WATER SEPARATORS



Model	Nominal Flow			Inlet	Outlet	Dimension
	l/min	m ³ /h	cfm			
OSD 20	2000	120	71	1/4"	10	140×140×240
OSD 35	3500	210	124	1/2"	20	215×257×500
OSD 105	10500	630	371	1/2"	20	345×282×654
OSD 255	25500	1530	901	1/2"	20	432×495×989
OSD 365	36500	2190	1289	1/2"	20	432×495×989
OSD 510	51000	3060	1801	1/2"	20	990×520×989
OSD 710	71000	4260	2507	1/2"	20	990×520×989

»»» COMPLETE COMPRESSOR ROOM SOLUTIONS



Compressor Station Layout

Oil-injected screw compressor
Refrigerant dryer

Range MSS/MDS



Care. Trust. Efficiency.

Care.

Care is what service is all about: professional service by knowledgeable people, using high-quality original parts.

Trust.

Trust is earned by delivering on our promises of reliable, uninterrupted performance and long equipment lifetime.

Efficiency.

Equipment efficiency is ensured by regular maintenance. Efficiency of the service organization is how Original Parts and Service make the difference.



Contact your local Mark representative now!



9805201803