COMPRESSED AIR TREATMENT

- Basic Principals
- Air Filters
- Refrigeration Dryers
- Adsorption Dryers
- Air Receiver Tanks
- Condensate Drains
- Oil / Water Separators

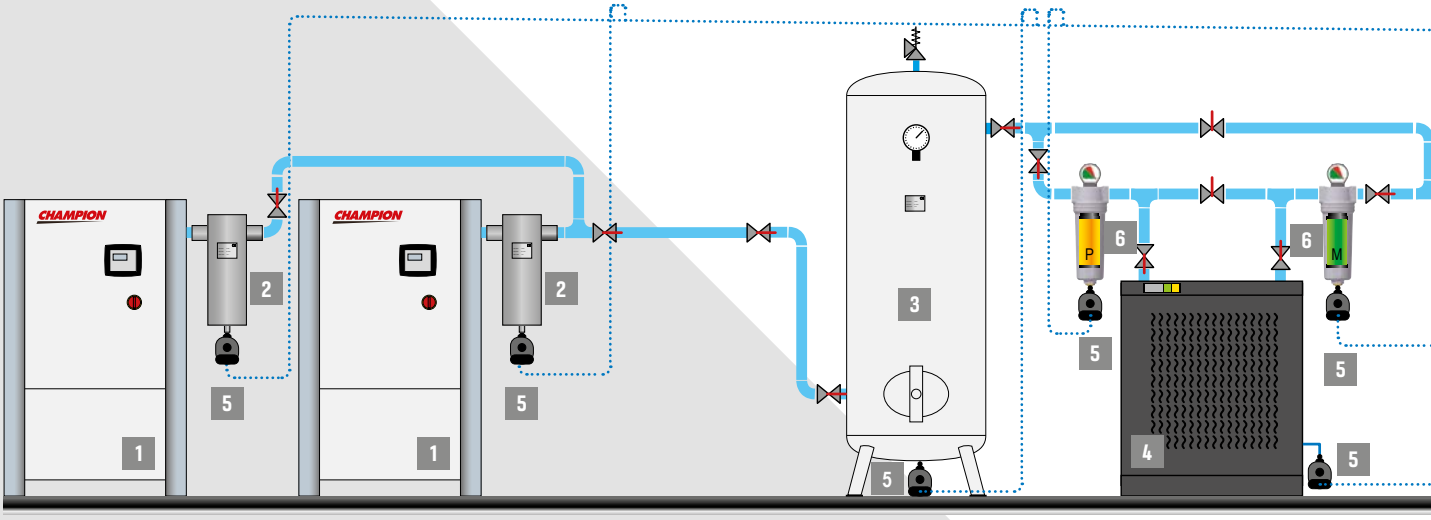
Compressed air quality classes according to ISO 8573-1:2010

CLASS	SOLID PARTICLES MAXIMUM NUMBER OF PARTICLES PER CUBIC METER AS A FUNCTION OF PARTICLE SIZE, D[2]			HUMIDITY AND LIQUID WATER PRESSURE DEW POINT		OIL CONCENTRATION OF TOTAL OIL[2] (LIQUID, AEROSOL AND VAPOUR)	
	[0.1 µm < d ≤ 0.5 µm]	[0.5 µm < d ≤ 1.0 µm]	[1.0 µm < d ≤ 5.0 µm]	[°C]	[°F]	[mg/m³]	[ppm / w / w]
0	As specified by the equipment user or supplier and more stringent than class[1]						
1	≤ 20,000	≤ 400	≤ 10	≤ -70	-94	≤ 0.01	≤ 0.008
2	≤ 400,000	≤ 6,000	≤ 100	≤ -40	-40	≤ 0.1	≤ 0.08
3	Not specified	≤ 90,000	≤ 1,000	≤ -20	-4	≤ 1	≤ 0.8
4	Not specified	Not specified	≤ 10,000	≤ +3	38	≤ 5	≤ 4
5	Not specified	Not specified	≤ 100,000	≤ +7	45	Not specified	Not specified
6				≤ ±10	50		

	MASS CONCENTRATION[2] - C_p [mg/m³]	LIQUID WATER CONTENT[2] - C_W [g/m³]		
6	$0 < C_p \leq 5$		Not specified	Not specified
7	$5 < C_p \leq 10$	$C_W \leq 0.5$	Not specified	Not specified
8	Not specified	$0.5 \leq C_W \leq 5$	Not specified	Not specified
9	Not specified		Not specified	Not specified
X	$C_p > 10$		> 5	> 4

[1] To qualify for a class designation, each size range and particle number within a class shall be met.
[2] At reference conditions: air temperature of 20° C, absolute air pressure of 100 kPa (1 bar), 0 relative water vapour pressure.

BASIC PRINCIPLES OF MOST TYPICAL COMPRESSED AIR APPLICATION



1. Compressor: The basic working principle of an air compressor is to compress atmospheric air, which is then used as per the requirements. In the process, atmospheric air is drawn in through an intake valve; more and more air is pulled inside a limited space mechanically by means of piston, impeller, or vane.

Since the amount of pulled atmospheric air is increased in the receiver or storage tank, volume is reduced and pressure is raised automatically. In simpler terms, free or atmospheric air is compressed after reducing its volume and at the same time, increasing its pressure.

Champion can provide many types of compressor to suit your needs.

2. Cyclone condensate separator: Cyclone condensate separators use centrifugal motion to force liquid water out of compressed air.

The spinning causes the condensate to join together on the centrifugal separators walls when the condensate gains enough mass it falls to the bottom of the separators bowl where it pools in the sump until it is flushed out of the system by the automatic float drain valve.

They are installed following aftercoolers to remove the condensed moisture.

3. Pressure vessel: Pressure vessel plays very important role in compressed air system:

- Damping pulsations caused by reciprocating compressors
- Providing a location for free water and lubricant to settle from the compressed air stream
- Supplying peak demands from stored air without needing to run an extra compressor
- Reducing load/unload or start/stop cycle frequencies to help screw compressors run more efficiently and reduce motor starts
- Slowing system pressure changes to allow better compressor control and more stable system pressures

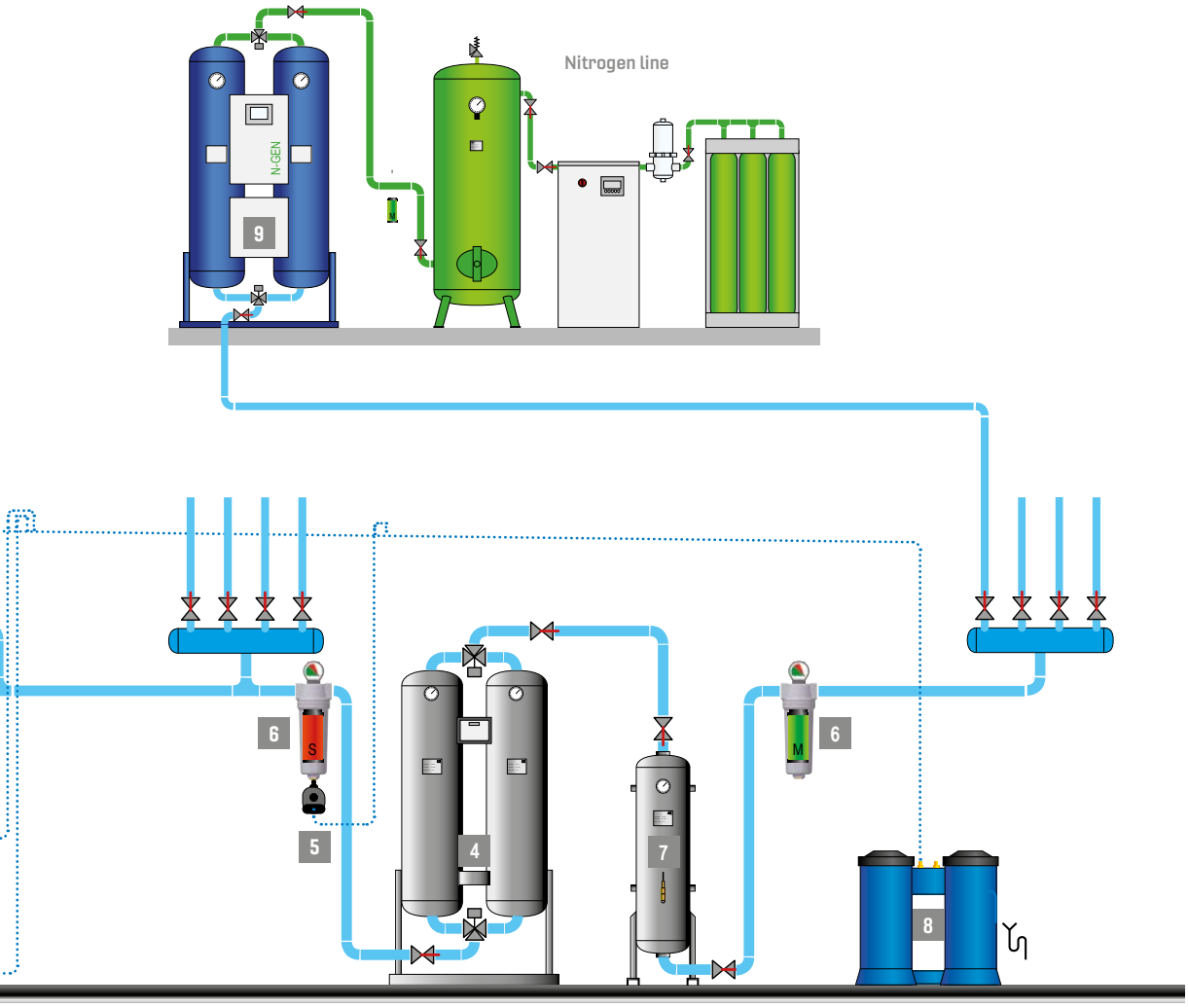
4. Compressed air dryer : Compressed air leaving the compressor aftercooler and moisture separator is normally warmer than the ambient air and fully saturated with moisture. As the air cools the moisture will condense in the compressed air lines. Excessive entrained moisture can result in undesired pipe corrosion and contamination at point of end use.

For this reason some sort of air dryer is normally required.

Some end use applications require very dry air, such as compressed air distribution systems where pipes are exposed to winter conditions. Drying the air to dew points below ambient conditions is necessary to prevent ice buildup.

Common types:

- Refrigerant
- Dessicant
- Membrane



5. Condensate drain: Drains are needed at all separators, filters, dryers and receivers in order to remove the liquid condensate from the compressed airsystem.

Failed drains can allow slugs of moisture to flow downstream that can overload the air dryer and foul end use equipment.

6. Filter: Compressed air filters are used for high efficient removal of solid particles, water, oil aerosols, hydrocarbons, odour and vapours from compressed air systems.

To meet the required compressed air quality appropriate filter element must be installed into filter housing.

7. Activated carbon tower: Activated carbon tower eliminates hydrocarbon vapours and odours from compressed air. Towers are filled with activated carbon adsorbent that adsorbs contaminants onto the surface of its internal pores. Activated carbon towers are used at applications where content of oil vapours needs to be reduced to minimum.

Activated carbon towers can be incorporated in existing compressed air systems significantly minimising the risks of contamination.

They are able to absorb oil carry-over (both liquid and vapour) to provide the plant with technically oil-free compressed air.

8. Oil/water separator: Local environmental laws and regulations state that condensate drained from compressed air systems cannot be returned to the sewage system due to the content of compressor lubricating oil. Water/oil separators are one of the most efective and economical solution. Multi-stage separation process using oleophilic filters and activated carbon, ensures exceptional performance and trouble free operation.

9. Nitrogen generator: The nitrogen generators extract the available nitrogen in the ambient air from the other gases by applying the Pressure Swing Adsorption (PSA) technology. During the PSA process compressed, cleaned ambient air is led to a molecular sieve bed, which allows the nitrogen to pass through as a product gas, but adsorbs other gases.

End user advice

- Replace inappropriate end use applications with efficient models (vortex nozzles, atomizers)
- Install a flow controller to lower plant pressure and reduce artificial demand caused by higher than required pressures
- Turn off air consuming equipment, using electric solenoids or manual shutoff valves
- Avoid operation of air tools without a load, as this consumes more air than a tool under load
- Replace worn tools, as they often require higher pressure and consume excess compressed air than tools in good shape
- Lubricate air tools as recommended by the manufacturer. Keep air used by all end uses free of condensate in order to maximise tool life and effectiveness
- Where possible and practical, group end use air equipment that has similar air requirements of pressure and air quality

At a glance...

Nominal Pressure
17 bar

Connections
3/8" - 3"

Volume Flow
18 - 18247 cfm

ALUMINUM COMPRESSED AIR FILTERS **CHF SERIES**

The reliability of compressed air filtration is paramount to the ongoing fight against problems caused through contamination entering the air system. Contamination in the form of dirt, oil and water can lead to:

- Pipescale and corrosion within pressure vessels
- Damage to production equipment, air motors, air tools, valves and cylinders
- Premature and unplanned desiccant replacement for adsorption dryers
- Spoiled product

The Champion filtration range offers various products and grades of filtration to provide peace of mind whatever the air quality requirement. It has been designed with focus on reliability and efficiency.

Designed and Built for Exceptional Performance

The advanced compressed air filter range from Champion reduces contamination in your air stream to help protect your critical processes and valuable equipment.

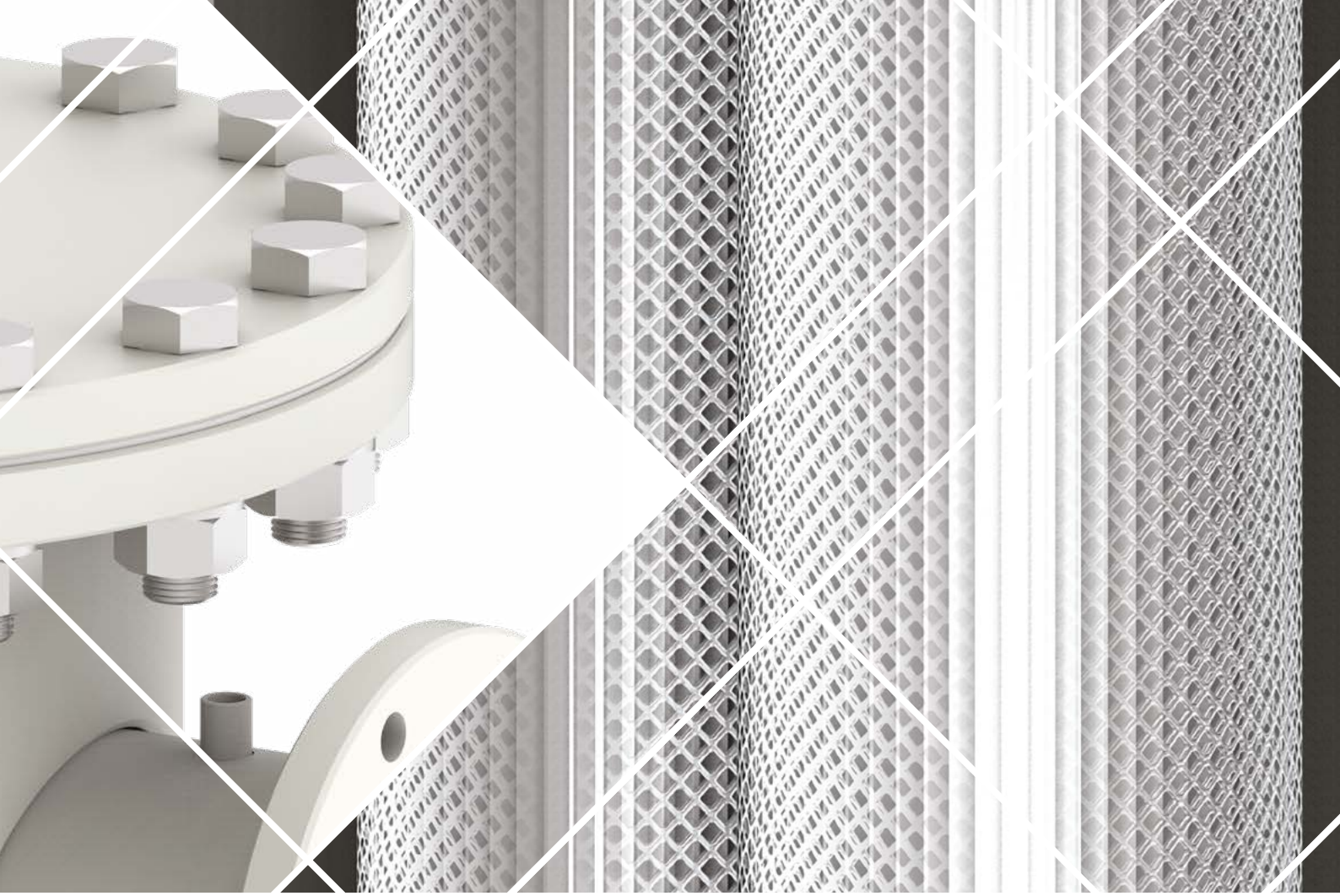
These filters are rigorously tested and engineered with superior components to provide years of reliable performance and consistently high-quality air.

The standard for high-quality air

The Champion filter range provides clean, high-quality air as defined by ISO 8573.1:2010 and are certified by a third party under ISO 12500-1.

Applications

- General industrial applications
- Automotive
- Electronics
- Food and beverage
- Chemical
- Petrochemical
- Plastics
- Paint



Compressed Air Purification -
The perfect choice!

Water Separation – The CHF Range of water separators

The CHF-range of water separators provide bulk condensed water and liquid oil removal and are used to protect coalescing filters against bulk liquid contamination.

0.5 – 200 m³/min*

18 – 7062 cfm*

Filtration – The CHF Range of compressed air filters

The CHF-range of filters efficiently removes water and oil aerosols, atmospheric dirt and solid particles, rust, pipescale and micro-organisms.

0.5 – 45 m³/min*

18 – 1600 cfm*

Compressed air contamination will ultimately lead to:

- **Inefficient production processes**
- **Spoiled, damaged or reworked products**
- **Reduced production efficiency**
- **Increased manufacturing costs**

Filtration – The CHF Range of flanged filters**

For larger flowrate or higher pressure applications the flanged filters are available in the standard four filtration grades.

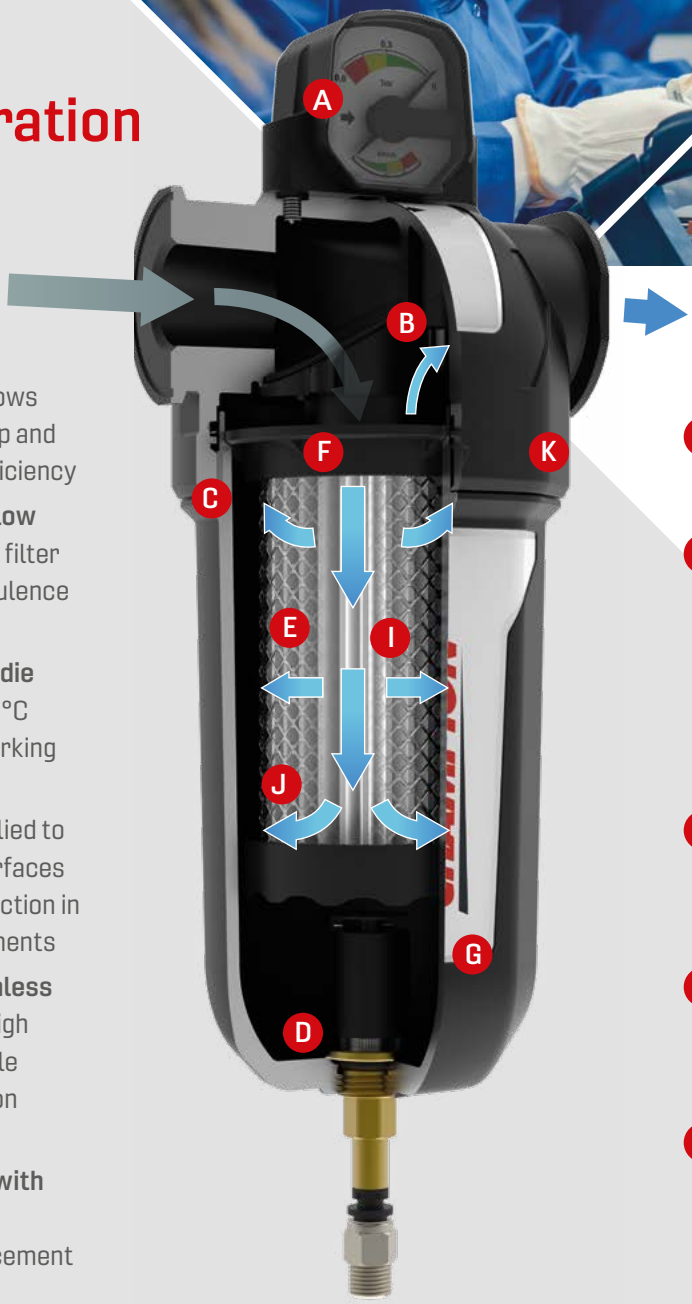
48 – 516 m³/min*

1702 – 18247 cfm*

* Flow rate at 20° C, 7 bar

** On request

Superior Filtration Technology



- **A** **Patented dual indicator (optional accessory)** shows differential pressure drop and economical operating efficiency
- **B** **Patented smooth bore flow insert** directs air into the filter element, minimising turbulence and pressure losses
- **C** **All-aluminum, precision die cast body** suitable for 80°C and 17 bar g maximum working pressure applications
- **D** **Proprietary coating** applied to the inside and outside surfaces provides corrosion protection in harsh industrial environments
- **E** **Filter element with stainless steel mesh** withstands high differential pressure while minimizing flow restriction through the element
- **F** **Ergonomic bowl design with no-touch filter element** simplifies element replacement
- **G** **Time strip label indicates** when it's time to change the element (CHF Grade only)
- **H** **Reliable discharge** The M and S grade filters and water separators are equipped with internal float drain. The Particulate (R) and Activated Carbon (A) filters have manual drain
- **I** **Deep-pleated filter media** reduces air flow velocity to maximise filtration efficiency and minimise pressure losses
- **J** **High-efficiency drainage layer** improves liquid drainage properties and enhances chemical compatibility
- **K** **Simple visual alignment** of the filter head and bowl ensures accurate assembly of components and helps to improve safety

High efficiency bulk liquid removal

Water separators remove bulk liquids such as condensate, water and liquid oil from the air flow through directional and centrifugal separation. Installed before a coalescing filter the water separator can provide added protection against bulk liquid contamination enabling the filter to operate more efficiently.

The CHF Series water separator range from Champion can operate across various flow conditions and have been optimised to reduce differential pressure with very low maintenance.

Technical data

Compressed Air Condensate Separators - CHF Series

SEPARATOR MODEL	CHAMPION PART NUMBER CCN	CONNECTION SIZE	FLOW RATE		MAX. PRESSURE		DIMENSIONS [MM]		WEIGHT
			m³/min	cfm	bar	psi	W	H	kg
CHF005W	47700907001	3/8"	0.50	18	17	250	76	175	0.6
CHF007W	47700908001	1/2"	0.66	23	17	250	76	175	0.6
CHF018W	47700909001	3/4"	1.8	64	17	250	98	230	1.2
CHF040W	47700910001	1"	4.0	141	17	250	129	268	2.2
CHF085W	47700911001	1 1/2"	8.5	300	17	250	129	268	2.1
CHF170W	47700912001	2"	17.0	600	17	250	170	467	5.1
CHF380W	47700913001	3"	38.0	1342	17	250	205	548	20

Compressed Air Filters CHF Series - Grade M

FILTER MODEL	CHAMPION PART NUMBER CCN	CONNECTION SIZE	FLOW RATE		MAX. PRESSURE		DIMENSIONS [MM]		WEIGHT
			m³/min	cfm	bar	psi	W	H	kg
CHF005LM	47698906001	3/8"	0.5	18	17	250	76	225	0.55
CHF007LM	47698907001	1/2"	0.7	24	17	250	76	225	0.55
CHF013LM	47698908001	3/4"	1.3	44	17	250	98	280	1.07
CHF018LM	47698909001	3/4"	1.8	65	17	250	98	280	1.09
CHF025LM	47698910001	1"	2.5	88	17	250	129	319	2.06
CHF032LM	47698911001	1"	3.2	112	17	250	129	319	2.06
CHF038LM	47698912001	1"	3.8	135	17	250	129	319	2.06
CHF067LM	47698913001	1 1/2"	6.7	235	17	250	129	409	2.36
CHF082LM	47698914001	1 1/2"	8.2	288	17	250	129	409	2.36
CHF100LM	47698915001	2"	10	353	17	250	170	518	5.2
CHF0133LM	47698916001	2"	13.3	471	17	250	170	518	5.24
CHF0167LM	47698917001	2"	16.7	589	17	250	170	518	5.26
CHF0200LM	47698918001	3"	20	706	17	250	205	600	9.31
CHF0260LM	47698919001	3"	26	918	17	250	205	700	10.69
CHF0305LM	47698920001	3"	30.5	1077	17	250	205	700	10.69
CHF0383LM	47698921001	3"	38.3	1354	17	250	205	930	13.7
CHF0450LM	47698922001	3"	45	1589	17	250	205	930	13.7

Compressed Air Filters CHF Series - Grade S

FILTER MODEL	CHAMPION PART NUMBER CCN	CONNECTION SIZE	FLOW RATE		MAX. PRESSURE		DIMENSIONS [MM]		WEIGHT
			m³/min	cfm	bar	psi	W	H	kg
CHF005LS	47698923001	3/8"	0.5	18	17	250	76	225	0.55
CHF007LS	47698924001	1/2"	0.7	24	17	250	76	225	0.55
CHF013LS	47698925001	3/4"	1.3	44	17	250	98	280	1.07
CHF018LS	47698926001	3/4"	1.8	65	17	250	98	280	1.09
CHF025LS	47698927001	1"	2.5	88	17	250	129	319	2.06
CHF032LS	47698928001	1"	3.2	112	17	250	129	319	2.06
CHF038LS	47698929001	1"	3.8	135	17	250	129	319	2.06
CHF067LS	47698930001	1 1/2"	6.7	235	17	250	129	409	2.36
CHF082LS	47698931001	1 1/2"	8.2	288	17	250	129	409	2.36
CHF100LS	47698932001	2"	10	353	17	250	170	518	5.2
CHF0133LS	47698933001	2"	13.3	471	17	250	170	518	5.24
CHF0167LS	47698934001	2"	16.7	589	17	250	170	518	5.26
CHF0200LS	47698935001	3"	20	706	17	250	205	600	9.31
CHF0260LS	47698936001	3"	26	918	17	250	205	700	10.69
CHF0305LS	47698937001	3"	30.5	1077	17	250	205	700	10.69
CHF0383LS	47698938001	3"	38.3	1354	17	250	205	930	13.7
CHF0450LS	47698939001	3"	45	1589	17	250	205	930	13.7

Compressed Air Filters CHF Series - Grade A

FILTER MODEL	CHAMPION PART NUMBER CCN	CONNECTION SIZE	FLOW RATE		MAX. PRESSURE		DIMENSIONS [MM]		WEIGHT
			m³/min	cfm	bar	psi	W	H	kg
CHF005LA	47698957001	3/8"	0.5	18	17	250	76	225	0.55
CHF007LA	47698958001	1/2"	0.7	24	17	250	76	225	0.55
CHF013LA	47698959001	3/4"	1.3	44	17	250	98	280	1.07
CHF018LA	47698960001	3/4"	1.8	65	17	250	98	280	1.09
CHF025LA	47698961001	1"	2.5	88	17	250	129	319	2.06
CHF032LA	47698962001	1"	3.2	112	17	250	129	319	2.06
CHF038LA	47698963001	1"	3.8	135	17	250	129	319	2.06
CHF067LA	47698964001	1 1/2"	6.7	235	17	250	129	409	2.36
CHF082LA	47698965001	1 1/2"	8.2	288	17	250	129	409	2.36
CHF100LA	47698966001	2"	10	353	17	250	170	518	5.2
CHF0133LA	47698967001	2"	13.3	471	17	250	170	518	5.24
CHF0167LA	47698968001	2"	16.7	589	17	250	170	518	5.26
CHF0200LA	47698969001	3"	20	706	17	250	205	600	9.31
CHF0260LA	47698970001	3"	26	918	17	250	205	700	10.69
CHF0305LA	47698971001	3"	30.5	1077	17	250	205	700	10.69
CHF0383LA	47698972001	3"	38.3	1354	17	250	205	930	13.7
CHF0450LA	47698973001	3"	45	1589	17	250	205	930	13.7

Compressed Air Filters CHF Series - Grade R

FILTER MODEL	CHAMPION PART NUMBER CCN	CONNECTION SIZE	FLOW RATE		MAX. PRESSURE		DIMENSIONS [MM]		WEIGHT
			m³/min	cfm	bar	psi	W	H	kg
CHF005LR	47698940001	3/8"	0.5	18	17	250	76	225	0.55
CHF007LR	47698941001	1/2"	0.7	24	17	250	76	225	0.55
CHF013LR	47698942001	3/4"	1.3	44	17	250	98	280	1.07
CHF018LR	47698943001	3/4"	1.8	65	17	250	98	280	1.09
CHF025LR	47698944001	1"	2.5	88	17	250	129	319	2.06
CHF032LR	47698945001	1"	3.2	112	17	250	129	319	2.06
CHF038LR	47698946001	1"	3.8	135	17	250	129	319	2.06
CHF067LR	47698947001	1 1/2"	6.7	235	17	250	129	409	2.36
CHF082LR	47698948001	1 1/2"	8.2	288	17	250	129	409	2.36
CHF100LR	47698949001	2"	10	353	17	250	170	518	5.2
CHF0133LR	47698950001	2"	13.3	471	17	250	170	518	5.24
CHF0167LR	47698951001	2"	16.7	589	17	250	170	518	5.26
CHF0200LR	47698952001	3"	20	706	17	250	205	600	9.31
CHF0260LR	47698953001	3"	26	918	17	250	205	700	10.69
CHF0305LR	47698954001	3"	30.5	1077	17	250	205	700	10.69
CHF0383LR	47698955001	3"	38.3	1354	17	250	205	930	13.7
CHF0450LR	47698956001	3"	45	1589	17	250	205	930	13.7

Grade M - General Purpose Protection

Particle removal down to 0.1 micron including coalesced liquid, water and oil, providing a maximum remaining oil aerosol content of 0.03 mg/m³ @ 21°C

Grade S - High Efficiency Oil Removal Filtration

Particle removal down to 0.01 micron including water and oil aerosols, providing a maximum remaining oil aerosol content of 0.01 mg/m3 @ 21°C (Precede with Grade M filter)

Grade A - Activated Carbon Filtration

Oil vapor and hydrocarbon odor removal, providing a maximum remaining oil content of <0.003 mg/m³ (<0.003 ppm) @ 21°C (Precede with Grade S filter)

Grade R - General Purpose Dust Filtration

Dust particle removal down to 1 micron

Operating Limitations:

Max Operating Pressure 17.2 bar g

Max Recommended Operating Temp 80°C (Grade M, S, R)

Max Recommended Operating Temp 50°C (Grade A)

Min Recommended Operating Temp 1°C

LINE PRESSURE	bar g	1	2	3	5	7	9	11	13	15	17
CORRECTION FACTOR		0.38	0.53	0.65	0.85	1.00	1.13	1.25	1.36	1.46	1.56

To use correction factors, multiply the filter's capacity by the correction factor to get the new filter flow capacity at the non-standard operating pressure. For example, a 190 m³/h filter operating at 11 bar has a correction factor of 1.25. 1.25 x 190 = 237.5 m³/h capacity at 11 bar.

Technical data

Compressed Air Filter Elements CHF Series - Grade M

FILTER MODEL	FILTER ELEMENT
CHF005LM	47699428001
CHF007LM	47699432001
CHF013LM	47699436001
CHF018LM	47699440001
CHF025LM	47699444001
CHF032LM	47699448001
CHF038LM	47699452001
CHF067LM	47699456001
CHF082LM	47699460001
CHF100LM	47699464001
CHF0133LM	47699468001
CHF0167LM	47699472001
CHF0200LM	47699476001
CHF0260LM	47700081001
CHF0305LM	47700085001
CHF0383LM	47700089001
CHF0450LM	47700093001

Compressed Air Filter Elements CHF Series - Grade A

FILTER MODEL	FILTER ELEMENT
CHF005LA	47699431001
CHF007LA	47699435001
CHF013LA	47699439001
CHF018LA	47699443001
CHF025LA	47699447001
CHF032LA	47699451001
CHF038LA	47699455001
CHF067LA	47699459001
CHF082LA	47699463001
CHF100LA	47699467001
CHF0133LA	47699471001
CHF0167LA	47699475001
CHF0200LA	47700080001
CHF0260LA	47700084001
CHF0305LA	47700088001
CHF0383LA	47700092001
CHF0450LA	47700096001

Compressed Air Filter Elements CHF Series - Grade S

FILTER MODEL	FILTER ELEMENT
CHF005LS	47699429001
CHF007LS	47699433001
CHF013LS	47699437001
CHF018LS	47699441001
CHF025LS	47699445001
CHF032LS	47699449001
CHF038LS	47699453001
CHF067LS	47699457001
CHF082LS	47699461001
CHF100LS	47699465001
CHF0133LS	47699469001
CHF0167LS	47699473001
CHF0200LS	47700078001
CHF0260LS	47700082001
CHF0305LS	47700086001
CHF0383LS	47700090001
CHF0450LS	47700094001

Compressed Air Filter Elements CHF Series - Grade R

FILTER MODEL	FILTER ELEMENT
CHF005LR	47699430001
CHF007LR	47699434001
CHF013LR	47699438001
CHF018LR	47699442001
CHF025LR	47699446001
CHF032LR	47699450001
CHF038LR	47699454001
CHF067LR	47699458001
CHF082LR	47699462001
CHF100LR	47699466001
CHF0133LR	47699470001
CHF0167LR	47699474001
CHF0200LR	47700079001
CHF0260LR	47700083001
CHF0305LR	47700087001
CHF0383LR	47700091001
CHF0450LR	47700095001

Notes

At a glance...

Operating Pressure
14/16 bar

Ambient temperature
25°C (45° max)

Inlet air temperature
35°C (55° max)

Applications

- Compressed air systems

REFRIGERATION AIR DRYERS
CHF SERIES

The advanced design and innovative technology offered by CHR Series refrigeration dryers provides an optimised performance alongside a more efficient mode of management.

The electronic controller, complete with user-friendly interface, has been simplified to focus on the essential functions of operation and regulation, including the unique fan control (CHR6 – CHR167).

Simplicity in design, unrivalled reliability, and extraordinary value for money are the core strengths of this new family of units.

Standard voltage

- CHR6 – CHR36: 230V/1ph/50-60Hz
- CHR47 – CHR167: 230V/1ph/50Hz
- CHR217 – CHR350: 400V/3ph/50Hz

Available options

- Non-standard voltages
  CHR47 – CHR125 are available with 230V/1ph/60Hz
  CHR217 is available with 460V/3ph/60Hz
- All models are available with NPT connections

Main design features

Variable speed fan

The only one in the market to offer a complete control of the dew point through the variable speed fan controlled by the microprocessor. Thanks to this solution we've eliminated the hot gas bypass valve and the fan pressure switch, critical components for the defects of this type of machines.

Multi-function control panel

It offers a wide range of parameters and alarms such as: high temperature, low temperature (antifreeze), probe failure, alarm history, etc.

New heat exchangers

Completely designed in our laboratories to guarantee the desired level of performances with the lowest pressure drop.

Energy saving and antifreeze mode

The compressor stops in case of low load and ambient temperature below 15 °C.

Compact and simple design

Sheet metal panels and internal components designed in order to reduce costs during assembly, maintaining the high quality guaranteed by Champion.

For higher capacities up to 45 m³/min (2,700 m³/h) please contact the Champion Sales Team

DRYER	PART NO	AIR FLOW CLASS 5		ABSORBED POWER	POWER SUPPLY	MAX PRESSURE	AIR CONNECTIONS	REFRIGERANT	DIMENSIONS [MM]		
		m³/h	m³/min	kW	V/PH/HZ	bar g	BSP		W	D	H
CHR6	47703069001	36	0.60	0.12	230/1/50-60	16	3/8"	R513A	305	360	408
CHR9	47703070001	54	0.90	0.17	230/1/50-60	16	1/2"	R513A	325	430	445
CHR12	47703071001	72	1.20	0.17	230/1/50-60	16	1/2"	R513A	325	430	445
CHR18	47703072001	108	1.80	0.29	230/1/50-60	16	1/2"	R513A	325	430	445
CHR24	47703073001	144	2.40	0.41	230/1/50-60	16	3/4"	R513A	395	486	565
CHR30	47703074001	180	3.00	0.47	230/1/50-60	16	3/4"	R513A	395	486	565
CHR36	47703075001	216	3.60	0.61	230/1/50-60	16	3/4"	R513A	395	486	565
CHR47	47703076001	280	4.67	0.6	230/1/50	16	1"	R407C	485	595	614
CHR57	47703077001	340	5.67	0.6	230/1/50	16	1"	R407C	485	595	614
CHR83	47703078001	500	8.33	0.9	230/1/50	16	1-1/2"	R407C	500	660	970
CHR102	47703079001	610	10.17	0.9	230/1/50	16	1-1/2"	R407C	500	660	970
CHR125	47703080001	750	12.50	1.23	230/1/50	14	2"	R407C	520	800	1195
CHR167	47703081001	1000	16.67	1.43	230/1/50	14	2-1/2"	R407C	520	835	1195
CHR217	47703082001	1300	21.67	2.14	400/3/50	14	2-1/2"	R407C	520	835	1230

DRYER	PART NO	AIR FLOW CLASS 4		ABSORBED POWER	POWER SUPPLY	MAX PRESSURE	AIR CONNECTIONS	REFRIGERANT	DIMENSIONS [MM]		
		m³/h	m³/min	kW	V/PH/HZ	bar g	BSP		W	D	H
CHR216 - SD	47888722001	1300	21.67	2.17	400/3/50	14	3"	R513A	806	1012	1539
CHR250 - SD	47888723001	1500	25.00	2.51	400/3/50	14	3"	R513A	806	1012	1539
CHR300 - SD	47850307001	1800	30.00	3.01	400/3/50	14	3"	R513A	806	1012	1539
CHR375 - SD	47850308001	2250	37.50	3.65	400/3/50	14	3"	R513A	806	1012	1539
CHR433 - SD	47850309001	2600	43.33	4.22	400/3/50	14	3"	R513A	806	1012	1539
CHR533 - SD	47850310001	3200	53.33	6.31	400/3/50	14	DN150 PN16	R513A	880	1819	1796
CHR700 - SD	47850311001	4200	70.00	5.96	400/3/50	14	DN150 PN16	R513A	880	1819	1796
CHR800 - SD	47850312001	4800	80.00	6.81	400/3/50	14	DN150 PN16	R513A	880	1819	1796
CHR900 - SD	47850313001	5400	90.00	10.9	400/3/50	13	DN150 PN16	R513A	1510	1500	1555

DRYER	PART NO	AIR FLOW		ABSORBED POWER	POWER SUPPLY	MAX PRESSURE	AIR CONNECTIONS	REFRIGERANT	DIMENSIONS [MM]		
		m³/h	m³/min	kW	V/PH/HZ	bar g	BSP		W	D	H
CHR6 - NLD	47703438001	36	0.60	0.12	230/1/50-60	16	3/8"	R513A	305	360	408
CHR9 - NLD	47703439001	54	0.90	0.17	230/1/50-60	16	1/2"	R513A	325	430	445
CHR12 - NLD	47703440001	72	1.20	0.17	230/1/50-60	16	1/2"	R513A	325	430	445
CHR18 - NLD	47703441001	108	1.80	0.29	230/1/50-60	16	1/2"	R513A	325	430	445
CHR24 - NLD	47703442001	144	2.40	0.41	230/1/50-60	16	3/4"	R513A	395	486	565
CHR30 - NLD	47703443001	180	3.00	0.47	230/1/50-60	16	3/4"	R513A	395	486	565
CHR36 - NLD	47703444001	216	3.60	0.61	230/1/50-60	16	3/4"	R513A	395	486	565
CHR47 - NLD	47703445001	280	4.67	0.6	230/1/50	16	1"	R407C	485	595	614
CHR57 - NLD	47703446001	340	5.67	0.6	230/1/50	16	1"	R407C	485	595	614
CHR83 - NLD	47703447001	500	8.33	0.9	230/1/50	16	1-1/2"	R407C	500	660	970
CHR102 - NLD	47703448001	610	10.17	0.9	230/1/50	16	1-1/2"	R407C	500	660	970
CHR125 - NLD	47703449001	750	12.50	1.23	230/1/50	14	2"	R407C	520	800	1195
CHR167 - NLD	47703450001	1000	16.67	1.43	230/1/50	14	2-1/2"	R407C	520	835	1195
CHR217 - NLD	47703451001	1300	21.67	2.14	400/3/50	14	2-1/2"	R407C	520	835	1230

Timer drain as standard, electronic No Loss Drain (NLD) option on request on Models CHR6 - CHR217. Integrated Smart Drain (SD) as standard on Models CHR216 - CHR900.

CORRECTION FACTORS FOR OPERATING PRESSURE											
OPERATING PRESSURE [bar]	3	4	5	6	7	8	9	10	11	12	13
CORRECTION FACTOR K1	0.70	0.78	0.85	0.93	1.00	1.06	1.11	1.15	1.18	1.20	1.22

CORRECTION FACTORS FOR INLET AIR TEMPERATURE CHANGES						
TEMPERATURE [°C]	30	35	40	45	50	55
CORRECTION FACTOR K2	1.20	1.00	0.85	0.71	0.58	0.49

CORRECTION FACTORS FOR AMBIENT CHANGES						
TEMPERATURE [°C]	25	30	35	40	42	45
CORRECTION FACTOR K3	1.00	0.96	0.92	0.88	0.85	0.80

At a glance...

Operating Pressure
14 bar

Pressure Dew Points
-40°C (-25°C / -70°C)

Flow Rate
0.08 - 5.00 m³/min

MODULAR DESICCANT DRYERS

A-Series modular compressed air dryers - a dedicated solution for every application

By combining the proven benefits of desiccant drying with modern design, Champion provides an extremely compact and reliable system to dry and clean compressed air efficiently.

At the heart of any compressed air treatment solution is the dryer, its purpose, to remove water vapour, stop condensation, corrosion and in the case of adsorption dryers, inhibit the growth of micro-organisms.

The Champion A-Series of heatless regenerative desiccant dryers have proven to be the ideal solution for many thousands of compressed air users worldwide in a wide variety of industries.

Advantages at a glance:

- Robust and reliable industry-proven design
- Suitable for all industries and applications - some desiccant dryer regeneration methods prevent their use in certain industries/applications
- Lower capital investment and reduced complexity compared to other dryer regeneration methods
- Lower maintenance costs in comparison to other dryer regeneration methods
- No heat, heaters, or heat-related issues

High air quality, low cost of ownership

Features are your benefits

High Air Quality:
Delivers ISO Class 2 or Class 1 pressure dew point air for critical applications; high efficiency pre and post-filters provide constant high air quality, protecting downstream air from contamination.

Superior Reliability:
Proven electronic control performance indicators, extruded aluminium with anodisation and epoxy painting, and NEMA 3/ IP54 Protection (also suitable for outdoor installation) make desiccant dryers durable and high-strength.

Applications

- Automotive
- Food and beverage
- Pharmaceutical
- Chemical
- Oil & Gas

Total Cost of Investment:
Reduced cost of ownership with point of use design to treat only the required air, conservative pressure drop 0.2 Barg, and purge reduction on compressed air demand (on/off-load).

Ease of Use:
User-friendly electronic interface with alarm indicators available for models 40 and above. Models from 40 to 300 m³/h are equipped with the new touchscreen controller.

Serviceability:
Modular dryers feature an optimised design for simplified maintenance and preventative maintenance alerts (models 40 and above).

Compact & Flexible Solution:
Space-saving design for optimised installation with air inlet and outlet in the back of unit and connection piping can come from right or left. Model up to 0.42 m³/min can be wall-mounted or installed horizontally

Performance Improvement:
Extended rated pressure range from 4 to 14 Barg and increased airflow range coverage up to 300 m³/h. Guaranteed class 2 (-40°C) and optionally class 1 (-70°C) pressure dew point.

Longer Cycle Life:
Modular dryers have a longer cyle time, 10 minutes, than most competitors (4 to 8 minutes maximum).

CHA1M -40°C to CHA50M -40°C Series

TYPE	PART NO	CAPACITY			MAX PRESSURE		PRESSURE DEW POINT	AIR IN/OUT CONNECTION	POWER SUPPLY	DIMENSIONS [MM]			WEIGHT	DESICCANT PER TOWER
		m³/min	m³/h	SCFM	bar g	psig	°C	BSP (in)	V/Ph/Hz	W	D	H	kg	kg
CHA1 -40°C	47700856001	0.08	5	3	14	203	-40	3/8"	230/1/50-60	238	212	423	11	0.7
CHA3 -40°C	47700857001	0.25	15	9	14	203	-40	3/8"	230/1/50-60	238	212	823	18	2.2
CHA4 -40°C	47700858001	0.42	25	15	14	203	-40	3/8"	230/1/50-60	238	212	1073	27	3.0
CHA7 -40°C	47700859001	0.67	40	24	14	203	-40	3/4"	230/1/50-60	475	405	968	44	6.4
CHA9 -40°C	47700860001	0.92	55	32	14	203	-40	3/4"	230/1/50-60	475	405	1118	50	8.4
CHA12 -40°C	47700861001	1.17	70	41	14	203	-40	3/4"	230/1/50-60	475	405	1318	60	10.9
CHA17 -40°C	47700862001	1.67	100	59	14	203	-40	1"	230/1/50-60	475	405	1673	73	15.4
CHA25 -40°C	47700863001	2.50	150	88	14	203	-40	1"	230/1/50-60	475	405	1873	90	18.0
CHA33 -40°C	47700864001	3.33	200	118	14	203	-40	1 1/2"	230/1/50-60	536	495	1705	177	30.8
CHA42 -40°C	47700865001	4.17	250	147	14	203	-40	1 1/2"	230/1/50-60	536	495	1905	180	35.9
CHA50 -40°C	47700866001	5.00	300	177	14	203	-40	1 1/2"	230/1/50-60	536	495	1905	188	35.9

CHA7 -40°C DS to CHA50M -40°C ES Series

TYPE	PART NO	CAPACITY			MAX PRESSURE		PRESSURE DEW POINT	AIR IN/OUT CONNECTION	POWER SUPPLY	DIMENSIONS [MM]			WEIGHT	DESICCANT PER TOWER
		m³/min	m³/h	SCFM	bar g	psig	°C	BSP (in)	V/Ph/Hz	W	D	H	kg	kg
CHA7 -40°C ES	47700867001	0.67	40	24	14	203	-40	3/4"	230/1/50-60	475	405	968	44	6.4
CHA9 -40°C ES	47700868001	0.92	55	32	14	203	-40	3/4"	230/1/50-60	475	405	1118	50	8.4
CHA12 -40°C ES	47700869001	1.17	70	41	14	203	-40	3/4"	230/1/50-60	475	405	1318	60	10.9
CHA17 -40°C ES	47700870001	1.67	100	59	14	203	-40	1"	230/1/50-60	475	405	1673	73	15.4
CHA25 -40°C ES	47700871001	2.50	150	88	14	203	-40	1"	230/1/50-60	475	405	1873	90	18.0
CHA33 -40°C ES	47700872001	3.33	200	118	14	203	-40	1 1/2"	230/1/50-60	536	495	1705	177	30.8
CHA42 -40°C ES	47700873001	4.17	250	147	14	203	-40	1 1/2"	230/1/50-60	536	495	1905	180	35.9
CHA50 -40°C ES	47700874001	5.00	300	177	14	203	-40	1 1/2"	230/1/50-60	536	495	1905	188	35.9

CHA7 -70°C to CHA50M -70°C Series

TYPE	PART NO	CAPACITY			MAX PRESSURE		PRESSURE DEW POINT	AIR IN/OUT CONNECTION	POWER SUPPLY	DIMENSIONS [MM]			WEIGHT	DESICCANT PER TOWER
		m³/min	m³/h	SCFM	bar g	psig	°C	BSP (in)	V/Ph/Hz	W	D	H	kg	kg
CHA7 -70°C	47700875001	0.53	32	19	14	203	-70	3/4"	230/1/50-60	475	405	968	44	6.4
CHA9 -70°C	47700876001	0.73	44	26	14	203	-70	3/4"	230/1/50-60	475	405	1118	50	8.4
CHA12 -70°C	47700877001	0.93	56	33	14	203	-70	3/4"	230/1/50-60	475	405	1318	60	10.9
CHA17 -70°C	47700878001	1.33	80	47	14	203	-70	1"	230/1/50-60	475	405	1673	73	15.4
CHA25 -70°C	47700879001	2.00	120	71	14	203	-70	1"	230/1/50-60	475	405	1873	90	18.0
CHA33 -70°C	47700880001	2.67	160	94	14	203	-70	1 1/2"	230/1/50-60	536	495	1705	177	30.8
CHA42 -70°C	47700881001	3.33	200	118	14	203	-70	1 1/2"	230/1/50-60	536	495	1905	180	35.9
CHA50 -70°C	47700882001	4.00	240	142	14	203	-70	1 1/2"	230/1/50-60	536	495	1905	188	35.9

CORRECTION FACTORS

INLET AIR TEMPERATURE	INLET AIR PRESSURE										
bar g	4	5	6	7	8	9	10	11	12	13	14
35°C	0.63	0.75	0.88	1.00	1.14	1.25	1.37	1.49	1.64	1.75	1.89
40°C	0.55	0.66	0.77	0.88	1.00	1.00	1.20	1.32	1.43	1.54	1.64
45°C	0.45	0.54	0.63	0.72	0.81	0.90	1.00	1.08	1.18	1.27	1.35
50°C	0.32	0.39	0.45	0.52	0.58	0.65	0.71	0.78	0.85	0.91	0.97

INLET AIR TEMPERATURE	INLET AIR PRESSURE										
psi g	58	73	87	102	116	131	145	160	174	189	203
95°F	0.63	0.75	0.88	1.00	1.14	1.25	1.37	1.49	1.64	1.75	1.89
104°F	0.55	0.66	0.77	0.88	1.00	1.00	1.20	1.32	1.43	1.54	1.64
113°F	0.45	0.54	0.63	0.72	0.81	0.90	1.00	1.08	1.18	1.27	1.35
122°F	0.32	0.39	0.45	0.52	0.58	0.65	0.71	0.78	0.85	0.91	0.97

Prefilters and Postfilter are supplied as standard on Modular Dryers.

Prefilter

Particle removal down to 0.01 micron

- Including water and oil aerosols
- Maximum remaining oil aerosol content of 0.01 mg/m³ @ 21°C

Postfilter

Particle removal down to 0.1 micron

- Including coalesced liquid, water and oil
- Maximum remaining oil aerosol content of 0.03 mg/m³ @ 21°C

At a glance...

Capacity
400 - 8500 m³/hr

Weight
285 - 4400 kg

Connection Size
1½ - 3"

TWIN TOWER HEATLESS DESICCANT DRYERS

Applications

- Air bearings
- Instrument Air
- Sand blasting
- Air gauging
- Spray painting
- Chemical Process - Oxydation, Ammonia Production
- Conveying, powder products
- Fluidics, sensors
- Food & beverages, direct air contact
- Micro-electronics manufacture
- Clean room processing air - blanketing
- Food & beverage - packaging, forming
- Photographic film processing

Premium in-house air treatment manufacturing

A modern production system and process demands increasing levels of air quality, and compressed air operators need to ensure that the downstream equipment also delivers on it 100%.
The new downstream portfolio manufactured by Champion utilising the latest technology provides an energy efficient solution at the lowest life cycle costs. The same quality, performance, and efficiency standards delivered by the compressors can now be enjoyed from the air treatment range.
Investment in our manufacturing site, in addition to the support teams, ensures that compressed air operators don't need to worry about the quality of their compressed air – quality that is key to ensuring maximum production efficiency and investment protection.

TYPE	PART NO	CONNECTION SIZE	CAPACITY		WEIGHT	DIMENSIONS		
		inch	m³/hr	m³/hr	kg	LENGTH	WIDTH	HEIGHT
CHT67F	47726991001	1½"	400	340	285	2160	825	530
CHT83F	47726992001	1½"	500	425	400	2380	796	550
CHT125F	47726993001	2"	750	637.5	520	2117	970	620
CHT150F	47726994001	2"	900	765	700	2305	970	620
CHT67FS	47727056001	1½"	400	340	285	2160	825	530
CHT83FS	47727057001	1½"	500	425	400	2380	796	550
CHT125FS	47727058001	2"	750	637.5	520	2117	970	620
CHT150FS	47727059001	2"	900	765	700	2305	970	620
CHT67F-70	47727069001	1½"	400	340	285	2160	825	530
CHT83F-70	47727070001	1½"	500	425	400	2380	796	550
CHT125F-70	47727071001	2"	750	637.5	520	2117	970	620
CHT150F-70	47727072001	2"	900	765	700	2305	970	620

CHT67F to CHT150F is standard at -40°C PDP, CHT67FS to CHT150FS is standard at -40°C PDP with Energy Management System, CHT67F-70 to CHT150F-70 is at -70°C PDP

Notes

At a glance...

Operating Pressure
1 - 16 bar

Flow Rate
1.1 - 75 m³/min

Operating Temp. Range
25°C -120°C

Pipe Size
1 - 2½"

AIR COOLED AFTERCOOLERS CHRA SERIES

Air cooled aftercoolers series CHRA have been designed to reduce compressed air temperature and water vapour dew point in compressed air system. A high efficiency axial fan forces ambient air over the heat exchangers copper tubes supported by aluminium fins, which provides the necessary cooling effect. The compressed air is cooled down to approximately 10°C above ambient temperature. CHRA aftercoolers ensures the maximum performance and protection of all equipment, such as refrigeration dryers, adsorption dryers and filters, positioned downstream of this unit.

TYPE	PART NO	FLOW RATE		AIR		FAN	OPERATING PRESSURE	DIMENSIONS [MM]		WEIGHT
		m³/min	m³/h	IN	OUT	W	bar	LENGTH	HEIGHT	kg
RA10	CC1246362	1	60	1"	1"	20	1 - 16	600	955	19
RA20	CC1246504	2	120	1"	1"	20	1 - 16	600	955	20
RA30	CC1246505	3	180	1 1/2"	1 1/2"	115	1 - 16	820	1145	29
RA40	CC1246506	4	240	1 1/2"	1 1/2"	135	1 - 16	1030	1145	32
RA65	CC1227381	6.5	390	2"	1 1/2"	690	1 - 16	970	1365	51
RA80	CC1246392	8	480	2"	1 1/2"	690	1 - 16	965	1405	53
RA120	CC1227462	12	720	2"	2"	760	1 - 16	1000	1555	97
RA160	CC1246393	16	960	2 1/2"	2 1/2"	760	1 - 16	1205	1765	120
RA200	CC1246514	20	1200	3"	2 1/2"	660	1 - 16	1410	2120	240
RA250	CC1218222	25	1500	3"	3"	660	1 - 16	1410	2120	250
RA300	CC1246515	30	1800	DN100	DN100	660	1 - 16	2095	2060	280
RA400	CC1246516	40	2400	DN100	DN100	2 x 760	1 - 16	2415	2050	300
RA500	CC1246517	50	3000	DN125	DN125	2 x 1300	1 - 12	3245	2000	310
RA650	CC1246518	65	3900	DN125	DN125	2 x 1300	1 - 12	3245	2000	390
RA750	47831947001	75	4500	DN150	DN150	2 x 1300	1 - 12	3325	2150	390

At a glance...

Operating Pressure
1 - 12 bar g

Flow Rate
2.2 - 759.5 m³/min

Operating Temp. Range
1.5°C - 200°C

WATER COOLED AFTERCOOLERS CHA SERIES

Applications

- Automotive
- Electronics
- Food & Beverage
- Chemical
- Petrochemical
- Plastics
- Paint
- General industrial application

Water-cooled aftercoolers series CHA have been designed, to reduce compressed air temperature thus water vapour content in compressed air system. Hot compressed air/ gas passes through the tubes. Cooling water passes around the tubes in counter flow. CHA aftercooler ensures the maximum performance and protection of all equipment, such as refrigeration dryers, adsorption dryers and filters, positioned downstream of this unit.

TYPE	PART NO	AIR		OPERATING PRESSURE	FLOW RATE		DIMENSIONS [MM]	
		IN	OUT	bar	m³/min	cfm	A	B
A30	CC1246520	1 1/2"	1 1/2"	1 - 12	3	106	850	385
A60	CC1246521	2 1/2"	1 1/2"	1 - 12	6	212	1060	385
A80	CC1246523	2 1/2"	1 1/2"	1 - 12	8	282	1300	385
A140	CC1246524	DN100	DN100	1 - 12	14	494	1300	702
A250	CC1240647	DN100	DN100	1 - 12	25	882	1300	702
A400	CC1246525	DN150	DN125	1 - 12	40	1412	1300	702
A500	CC1246526	DN175	DN125	1 - 12	50	1765	1300	770
A800	CC1246527	DN250	DN150	1 - 12	80	2824	1300	845
A1100	CC1246528	DN250	DN150	1 - 12	110	3882	1300	845
A1500	CC1246529	DN300	DN200	1 - 12	150	5294	1300	925
A1800	CC1246530	DN350	DN200	1 - 12	180	6353	1300	925
A2100	CC1246531	DN400	DN200	1 - 12	210	7412	1500	925

At a glance...

Operating Pressure
1 - 16 bar

Operating Temp. Range
25°C -120°C

Pipe Size
1 - 2½"

Flow Rate
1.1 - 75 m³/min

ACTIVATED CARBON TOWER CH-FT SERIES

Applications

- Automotive
- Electronics
- Food and beverage
- Chemical
- Petrochemical
- Plastics
- Paint
- General industrial application

The activated carbon tower eliminates oil vapour and hydrocarbon odours from your operations. Available in two configurations: – aluminum extrusion and fabricated tank are easy to maintain. In critical applications like food and pharmaceutical production where oil content ISO8573-1 Class 1 air or better is crucial, this carbon adsorption technology helps achieve the highest quality "technically oil-free air".

Extruded aluminum units are up to model CHFT58L and are lightweight (CHFT5L can be wall-mounted). As per the tank configuration, they can be used in compressed air systems or at the point of use. Rightsizing units with corrective factors ensures consistent outlet air quality over 12 months of continuous operations.

This activated carbon tower is a cost-effective, adaptable solution to your oil-free compressed air requirements from the experts at Champion. Deliver Class 0 Air when installed with upstream and downstream filters to intercept activated carbon dust.

- Virtually Oil Free Air: ISO8573-1 Class 0: 0.003 mg/m³ oil content when used with inline filters
- Can be used with Oil Free and Contact Cooled Compressors
- Easy to replace lose high quality Activated Carbon Molecular Sieve
- Long service interval - media replacement every 12 months

CH-FT Activated Carbon Tower

MODEL	CODE	GAS	BAR	M³/MIN	CFM	A	B	C	KG
CHFT5L	47745977001	1/2"	14	0.5	17.66	749	212	143	8
CHFT12L	47745978001	3/4"	14	1.25	44.14	890	267	255	20
CHFT18L	47745979001	1"	14	1.83	64.63	1090	267	255	24
CHFT25L	47745980001	1"	14	2.5	88.29	1440	267	255	32
CHFT30L	47745981001	1"	14	3	105.94	1640	267	255	35
CHFT58L	47745982001	1 1/2"	14	5.83	205.88	1660	447	255	70
CHFT100L	47745983001	2"	15	10	353.15	2113	391	N/A	115
CHFT166L	47745984001	2"	15	16.67	588.70	2148	436	N/A	245
CHFT260L	47745985001	3"	15	26	918.18	2463	483	N/A	222
CHFT383L	47745986001	3"	15	38.33	1353.61	2693	595	N/A	379
CHFT466L	47745987001	DN100	13	46.67	1648.14	2879	721	N/A	456
CHFT950L	47745988001	DN150	13	95	3354.90	3455	855	N/A	900

CH-FT Activated Carbon Tower Service Kits

MODEL	CODE
Kit CHFT5L Champion	47752199001
Kit CHFT12L Champion	47752200001
Kit CHFT18L Champion	47752201001
Kit CHFT25L Champion	47752202001
Kit CHFT30L Champion	47752203001
Kit CHFT58L Champion	47752204001
Kit CHFT100L Champion	47752205001
Kit CHFT166L Champion	47752206001
Kit CHFT260L Champion	47752207001
Kit CHFT383L Champion	47752208001
Kit CHFT466L Champion	47752209001
Kit CHFT950L Champion	47752210001

CORRECTION FACTORS												
°C/BARG	4	5	6	7	8	9	10	11	12	13	14	15
25°C	0.63	0.75	0.88	1.00	1.00	1.00	1.00	1.14	1.14	1.14	1.25	1.25
30°C	0.63	0.75	0.88	1.00	1.00	1.00	1.00	1.14	1.14	1.14	1.25	1.25
35°C	0.63	0.75	0.88	1.00	1.00	1.00	1.00	1.14	1.14	1.14	1.25	1.25
40°C	0.63	0.66	0.77	0.88	0.88	0.88	0.88	1	1	1	1.11	1.11
45°C	0.63	0.54	0.63	0.72	0.72	0.72	0.72	0.81	0.81	0.81	0.9	0.9
50°C	0.63	0.39	0.45	0.52	0.52	0.52	0.52	0.58	0.58	0.58	0.65	0.65

Notes

At a glance...

Operating Pressure
11 - 16 bar

Capacity
100 - 10000l

VERTICAL AIR RECEIVERS

Air receivers are an important part of the compressed air system, evening out peaks and troughs in air demand, minimising pulsations from piston compressors and protecting your air compressor from over frequent load/unload or start stop cycles.

VERTICAL TANKS[1)]	CODE	DIRECTIVE	SIZE litre	PRESSURE bar	AIR OUTLET inch
TANK 100L-11	CC1214969K	2014/29/EU	100	11	3/4
TANK 150L-11	CC1214973K	2014/29/EU	150	11	1
TANK 200L-11	CC1215044K	2014/29/EU	200	11	1
TANK 200L-11	CC1215045K	2014/29/EU	200	11	2
TANK 270L-11	220662K	2014/29/EU	270	11	1
TANK 270L-11	CC1215046K	2014/29/EU	270	11	2
TANK 500L-11	220663K	2014/29/EU	500	11	1
TANK 500L-11	CC1215047K	2014/29/EU	500	11	2
TANK 720L-11	CC1229498K	2014/29/EU	720	11	2
TANK 900L-11	CC1120428K	2014/29/EU	900	11	1.5
TANK 900L-11	CC1215049K	2014/29/EU	900	11	2
TANK 1000L-12	220664K	2014/68/UE (PED)	1000	12	2
TANK 1500L-12	CC1120429K	2014/68/UE (PED)	1500	12	2
TANK 2000L-12	220665CK	2014/68/UE (PED)	2000	12	2
TANK 2000L-12	CC1215050K	2014/68/UE (PED)	2000	12	3
TANK 3000L-12	220668CK	2014/68/UE (PED)	3000	12	2
TANK 3000L-12	CC1215051K	2014/68/UE (PED)	3000	12	3
TANK 100L-16	CC1215052K	2014/29/EU	100	16	3/4
TANK 150L-16	CC1215055K	2014/29/EU	150	16	1
TANK 270L-16	CC1215057K	2014/29/EU	270	16	1
TANK 500L-16	CC1215058K	2014/29/EU	500	16	1
TANK 1000L-16	CC1215059K	2014/68/UE (PED)	1000	16	2
TANK 1500L-16	CC1215060K	2014/68/UE (PED)	1500	16	2
TANK 2000L-16	CC1109207K	2014/68/UE (PED)	2000	16	2
TANK 3000L-16	CC1215061K	2014/68/UE (PED)	3000	16	2
TANK 5000L-8	CC1215062K	2014/68/UE (PED)	5000	8	3
TANK 8000L-8	CC1215063K	2014/68/UE (PED)	8000	8	3
TANK 10000L-8	CC1215064K	2014/68/UE (PED)	10000	8	3
TANK 5000L-12	CC1215065K	2014/68/UE (PED)	5000	12	3
TANK 8000L-12	CC1215066K	2014/68/UE (PED)	8000	12	3
TANK 10000L-12	CC1215067K	2014/68/UE (PED)	10000	12	3

[1)] Including paint, support legs, pressure gauge, safety valve and inlet and outlet nozzles.

At a glance...

Operating Pressure
0 - 80 bar

Environmental Protection
IP54, IP65

CONDENSATE DRAINS

Champion drains can be applied in both oil-lubricated and oil-free compressor applications. Champion products carry globally recognised approvals, and each product is 100% tested before dispatch.

Champion drains are robust and designed for long life industrial applications.

The Champion direct-acting valve construction with a large orifice has proven to be the most reliable option for condensate draining applications, avoiding potential blockages. In addition, we apply stainless steel moving parts that offer an extended life guarantee and are less sensitive to aggressive particles found in the condensate.

Champion valves are constructed from robust brass or stainless steel, ensuring no damage occurs during transportation, installation, functional operation and subsequent maintenance throughout the drain's working life.

Drains are also installed outdoors. IP65 (NEMA4) insulation protection is, therefore, a minimum requirement. High-grade coil insulation protects the copper wire from overheating, and top brand PCB components are applied to our electronic modules.

Servicing Champion drains is quick and easy. Their service-friendly design ensures short maintenance intervals.

Based on their high and low-temperature operation characteristics, FPM seals have been specifically selected and used in all Champion CHTDC, CHTDV and CHCNL drains. In addition, FPM seals are chosen as this material has proven to be the best choice for compressed air condensate draining applications.

CHTDV & CHTDC Electronic Timer-Controller Condensate Drains

TECHNICAL DATA	CHTDV 230V 1/4"	CHTDV 115V 1/4"	CHTDV 230V 1/2"	CHTDV 115V 1/2"	CHTDV 230V 3/8"	CHTDV 115V 3/8"	CHTDC 230V 16bar 1/2"	CHTDC 115V 16bar 1/2"
SUPPLY VOLTAGE	230V	115V	230V	115V	230V	115Vå	230V	115V
OPERATING TEMP. RANGE	1 - 55°C (34 - 131°F)							
OPERATING PRESSURE	0 - 16 bar (0 - 232 psi)							
PROTECTION CLASS	IP65 (NEMA4)							
COIL POWER	10 W	13 W	10 W	13 W	10 W	13 W	10 W	13 W
MASS			0.4 kg				0.6 kg	
TIME ON	0.5 - 10 s							
TIME OFF	0.5 - 45 m							
INLET CONNECTION	1/4"		1/2"		3/8"		1/4" & 1/2"	
OUTLET CONNECTION	1/4"		1/2"		3/8"		1/2"	
FLOW RATE KVS	7 m^3/h							
DIMENSIONS LXBXH[MM]	50x89x114 mm						94x89x127 mm	
MEDIUM	Condensate (air, water & oil)							
INTEGRAL STRAINER	No						Yes	
INTEGRAL BALL VALVE	No						Yes	
PART NUMBER	47803936001	47803935001	47774991001	47774993001	47774990001	47774992001	47775260001	47775262001

CHCNL 10 & 100 Electronic Zero Air Loss Drain with Alarm

TECHNICAL DATA	CHCNL10 230V	CHCNL10 115V	CHCNL10 230V ALARM	CHCNL10 115V ALARM	CHCNL100 230V	CHCNL100 115V
SUPPLY VOLTAGE	230V	115V	230V	115V	230V	115V
FREQUENCY	50-60 Hz					
OPERATING PRESSURE	16bar (232psi)					
DRAIN CAPACITY (@16BAR/232 PSI)	45 l/h				665 l/h	
OPERATING TEMP. RANGE	1 - 50 °C (34 - 122 °F)					
INLET CONNECTION	1/2"					
OUTLET CONNECTION	1/4"					
ALARM FUNCTION	No		Yes N/O			
INLET STRAINER	Yes					
PROTECTION CLASS	IP65 (NEMA4)					
MASS	0.5 kg				1.5 kg	
DIMENSIONS (LXBXH)	123x74x92 mm				179x114x87 mm	
PART NUMBER	47775257001	47775258001	47775263001	47775264001	47775259001	47775261001

IED Series
Electronic
Condensate Drains

TECHNICAL DATA	IED	
VOLTAGE	230 VAC	115 VAC
FREQUENCY	50-60 Hz	50-60 Hz
INTERNAL FUSE	5 x 20 1A T	
POWER	10 VA	
OPERATING PRESSURE RANGE	0-16 bar [0-232 psi]	
DRAIN CAPACITY [AT 7 bar/101 PSI]	8 l/h at 7 bar [0,005 cfm at 101 psi]	
OPERATING TEMPERATURE RANGE	1.5-65 °C [35-149°F]	
INLET CONNECTION	G 1/2" parallel thread	
PROTECTION CLASS	IP54	
MASS [kg]	0.3	
OPERATING TEMPERATURE RANGE	1.5 to 65°C	
DIMENSIONS [L x B x H]	61 x 60 x 161 mm	
SERVICE NETWORK CONNECTION	-	-
ALARM OUTPUT	-	-
PART NUMBER	CC1182025	

EMD Series
Electronic
Condensate Drains

TECHNICAL DATA	EMD12 230 V
SERVICE NETWORK CONNECTION	-
ALARM OUTPUT	-
VOLTAGE	230 VAC, 50-60 Hz
INTERNAL FUSE	5 x 20 1A T
POWER	10 VA
OPERATING PRESS. RANGE	0-16 bar [0-232 psi]
DRAIN CAPACITY [AT 7 bar/101 PSI]	12 l/h [0.007cfm]
OPERATING TEMP. RANGE	1.5-65°C [35-149°F]
INLET CONNECTION	G 1/2"
OUTLET CONNECTION	Push connection for tube ø8
PROTECTION CLASS	IP54
MASS [kg]	0.55
DIMENSIONS A x B x C [mm]	133 x 76 x 147
PART NUMBER	CC1112242

SAC 120
Automated
Condensate Drains

TECHNICAL DATA	
OPERATING TEMP. RANGE	1.5 - 65 °C [35-149 °F]
OPERATING PRESSURE	20 bar [290 psi]
MASS	0.6 kg
DISCHARGE CAPACITY [AT 7 bar/101 PSI]	167 l/h
INLET CONNECTION	G 1/2" (NPT option)
OUTLET CONNECTION	G 1/2" (NPT option)
DIMENSIONS A x B x C	135 x 110 x 130 mm
MEDIUM	Condensate (air, water, oil)
PART NUMBER	222394

Recommendations

Install ball valve between pressure vessel and inlet connection. Install strainer element between pressure vessel and inlet connection. Install nipple with venting tube to avoid generation of air bubbles. Nipple is screwed on inlet connection.

SAC 70
Automated Condensate Drain

TECHNICAL DATA	
OPERATING TEMP. RANGE	1.5 - 65°C [35-149°F]
OPERATING PRESSURE	0 - 16 bar [0 - 232 psi]
MASS	0.04 kg
CONNECTION	G ½"
OUTLET CONNECTION	ø8
DIMENSIONS H x D	90 x ø38.5 mm
MEDIUM	Condensate (air, water, oil)
PART NUMBER	223120

MCD
Manual Condensate Drain

TECHNICAL DATA		
OPERATING TEMP. RANGE		1.5 - 65 °C [35-149 °F]
OPERATING PRESSURE		0-20 bar [290 psi]
MASS		0.06 kg
CONNECTION		G ½"
DIMENSIONS	H	38.2 mm
	E	24.0 mm
MEDIUM		Condensate [air, water, oil]
MATERIAL		Brass
PART NUMBER		CC1183830

OIL/WATER SEPARATORS CHSEP

Unrivalled performance and efficiency

Environmental regulations strictly prohibit the discharge of oily wastes and chemicals, including the condensate drained from a compressed air system. This mixture of oil and water is classified as hazardous industrial waste, and the discharge of untreated compressor condensate into foul sewers is prohibited. Compressor condensate must be either collected or treated before disposal using an oil water separator. Oil water separators remove lubricants from compressed air condensate ensuring environmentally friendly disposal. Considering that compressor condensate consists of approximately 95% water, it makes financial sense to separate the oil from the condensate before disposing of waste. Untreated condensate disposal is costly as it is charged by volume. Every end-user that operates a compressed air system should have a condensate waste management program in place, not only to abide by laws and regulations but also to practice environmental and ecological responsibility. Champion oil water separators are a reliable, efficient, cost-effective, and environmentally friendly solution for on-site discharge of condensate from air compressors.

Modular design for enhanced performance

Modern industrial working environments present a host of challenges for effective and long-lasting oil water separation including ambient humidity and extreme temperatures, different coolant types, excessive operating hours, equipment age, compressor loading and residual oil.
To meet these challenges, Champion separators offer different sizes to match the customers needs. They feature adsorption media that withdraws and permanently adsorbs the lubricants.

Features are your benefits

Pre-filter removes contaminants
No fouling and clogging

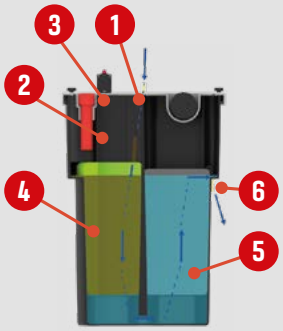
Meets compressor flow requirements
Up to 60 m^3/min

Complies with environmental regulations
Minimised fluid disposal costs

Streamlined design
Reliable operation with reduced maintenance

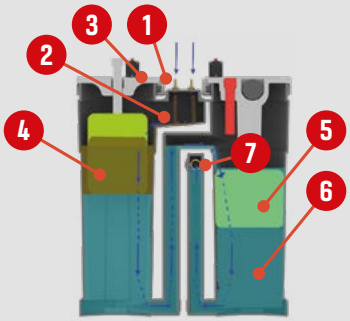
Oil-water separator | Principle of operation

Puro Flow - 2 to 4.5 m^3/min



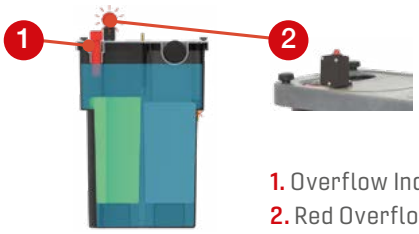
1. Inlet connection to the depressurising chamber
2. Demister filter to separate compressed air from the condensate
3. Compressed air discharge
4. Initial filtration element (polypropylene) to capture most of the oil and condensation
5. Activated carbon element to capture oil residuals and hydrocarbons
6. Water discharge

Sepremium Flow - 10 to 60 m^3/min

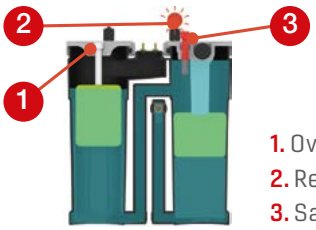


1. Inlet connection to the depressurising chamber
2. Demister filter to separate compressed air from the condensate
3. Compressed air discharge
4. Initial filtration element (polypropylene) to capture most of the oil and condensation
5. 2nd polypropylene element to protect the activated carbon element and avoid oil-layer creations, which may cause overflow
6. Activated carbon element to capture oil residuals and hydrocarbons
7. Water discharge

Oil-water separator - Indicators



1. Overflow Indicator
2. Red Overflow Light*



1. Overflow Indicator
2. Red Saturation - Overflow Light*
3. Saturation Indicator

***Sealed with batteries. No risk of contact with any liquid.**

The responsible choice

By minimising the cost associated with the disposal of fluids, and keeping them out of the environment, Champion oil water separators help you to stay compliant with environmental regulations and avoid costly fines. The separator is also designed to operate with minimal maintenance or downtime, resulting in no mess or overflow.
Champion separators provide condensate discharge levels < 5 ppm at standard conditions.

Guaranteed adsorption of a variety of coolants

Polypropylene and carbon media are effective on a big variety of polyalphaolefins lubricants and mineral oils available in the market. Compatible also with polyglycol coolants, with a dedicated model and code (not displayed in the list below).

Multiple sizing options

Champion oil water separators come in 6 sizes, from 2 to 60 m^3/min. The media is designed to last up to 6 months at 8,000 hours/year of operation and up to 12 months at 4,000 hours/year. Each model has standardised, modular media bags.

TECHNICAL DATA	
OPERATING TEMP.RANGE	1 - 50°C
OPERATING MEDIA	Condensate (water - oil; Non aggressive) Suitable for mineral lubricants, synthetic lubricants and stable emulsions. For polyglycol coolants, contact us for a dedicated code and quotation.
DESIGN CONDITIONS	4 ppm Oil Carryover from compressor, 75% compressor loading, 20°C ambient and 70% RH
RESIDUAL OIL CONTENT	<5 ppm
SERVICE INTERVALS	When first of the following parameters appears: > 3 - 6 months if 8000 operating hours of compressor > 6 - 12 months if 4000 operating hours of compressor > when prefilter has oil built up > according to lifetime indicator / overflow indicator

MODEL	CONNECTIONS INLET BSP	CONNECTIONS OUTLET BSP	FAD M^3/MIN	LENGTH MM	HEIGHT MM	DEPTH MM	WEIGHT KG	MATERIAL NO.
CHSEP020	1/2"	1/2"	2	270	249	240	4.1	47810927001
CHSEP020 WB	1/2"	1/2"	2	270	249	240	4.1	47811383001
CHSEP045	1/2"	1/2"	5	392	569	191	8	47882806001
CHSEP100	1/2"	1"	10	670	750	260	17	47882808001
CHSEP200	1/2"	1"	20	800	900	320	28	47882810001
CHSEP300	1/2"	1"	30	990	900	400	42	47882812001
CHSEP600	1/2"	1"	60	1,160	1,040	490	74	47887502001

Polyglycol version also available. Contact us for more info.