

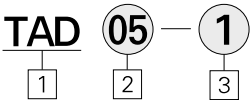
Refrigerated Air Dryer

TAD05 ~ TAD750 series



- Removes harmful particles in the compressed air.
- Removes moisture caused by the process of compression using refrigerated gas.
- Reliable refrigeration equipment for a stable cooling system.

How to Order



1 Refrigerated Air Dryer(TPC Air Dryer)

2 Standard Size

Symbol	Applicable Air Compressor(HP)	Symbol	Applicable Air Compressor(HP)
05	5	150	150
07	7.5	200	200
10	10	250	250
15	15	300	300
20	20	400	400
30	30	500	500
50	50	600	600
75	75	750	750
100	100		

3 Voltage

1	AC230V, 50Hz	(TAD05 ~ TAD750)
2	AC380V, 50Hz	(TAD150 ~ TAD750)
3	AC440V, 50Hz	(TAD150 ~ TAD750)

Correction Factors

Service pressure kgf/cm ² (psi)	3(42.7)	4(56.9)	5(71.1)	6(85.3)	7(99.6)	8(113.8)	9(128)	10(142)	11(156.4)	12(170.6)	13(184.6)	14(198.6)	15(212.8)
Pressure exchange(C1)	0.74	0.84	0.91	0.96	1.00	1.04	1.06	1.09	1.11	1.12	1.14	1.15	1.17

Ambient temp. °C(°F)	25(77)	30(86)	35(95)	38(100.4)	40(104)	43(109.4)	45(113)	50(122)
Temp. exchange(C2)	1.16	1.11	1.06	1.00	0.95	0.89	0.84	0.78

Air Inlet Temp. °C(°F)	30(86)	35(95)	38(100.4)	40(104)	43(109.4)	45(113)	50(122)	55(131)	60(140)
Inlet Temp. exchange(C3)	1.32	1.15	1.00	0.92	0.83	0.78	0.65	0.52	0.39

Corrected Flow Rate(FA)

FA = Flow capacity×C1×C2×C3

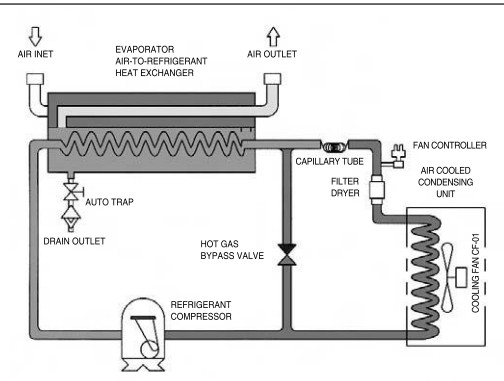
TAD05~TAD750 series

SPECIFICATIONS(Air Cooled Type)

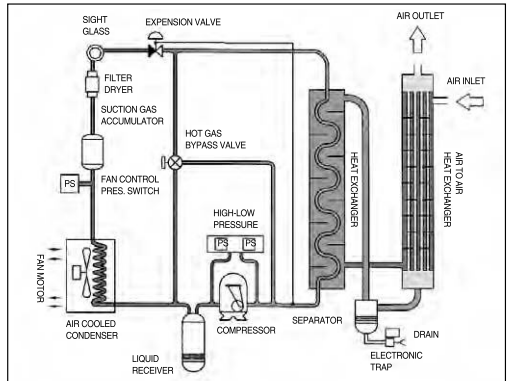
MODEL		TAD05	TDA07	TDA 10	TDA 15	TDA 20	TDA 30	TDA 50	TDA 75	TDA 100	TDA 150	TDA 200	TDA 250	TDA 300	TDA 400	TDA 500	TDA 600	TDA 750	
Connections(Inch)		3/4″(S)				1″(S)		1½″(S)	2″(S)		3″(F)		4″(F)			6″(F)		8″(F)	
Flow Capacity(Nm³/min)		0.62	0.97	1.35	1.96	2.63	3.85	7.24	11.13	14.62	21.85	31.32	40.13	47.56	59.47	73.92	89.56	112.47	
Applicable Compressure(HP)		5	7.5	10	15	20	30	50	75	100	150	200	250	300	400	500	600	750	
Refrigeration Comp` (HP)		1/4	1/4	1/4	1/3	1/2	3/4	1	1½	2	3	5	5	7½	7½	10	10	15	
Refrigerant (Freon Gas)		R22																	
Dew Point		4℃(39.2°F)																	
Max. Pressure		1.0Mpa(140.8psi)																	
Fluid		(COMPRESSED AIR)																	
Inlet Temp`		2 ~ 40℃(35.6~104°F)																	
Ambient Temp`		1.7 ~ 40℃(35.1~104°F)																	
Condenser		AIR COOLED TYPE																	
Electric Power Source	V	AC 220V 1 ϕ 60Hz										AC 220V/380V/440V 3 ϕ 60Hz							
	A	3.78	3.78	3.78	6.1	8.6	10.0	10.5	13.15	14.0	15	16.8	16.8	23.7	23.9	33.7	33.7	47.8	
	Kw	0.747	0.747	0.747	1.207	1.728	1.728	2.064	2.02	3.09	3.65	4.5	4.5	6.375	6.25	9.0	9.0	12.75	
Weight(lbs)		59.5	66.1	77.2	99.2	136.7	156.5	189.6	205	223	525	626	626	1050	1208	1724	1821	2667	
Dimension W×L×H		310×665×510				310×700 ×570	430×820×640		490×940 ×820	570×1190 ×930	570×1190 ×990	900×1700×1800			1000×2000 ×1800	2800× 1200×2500			

- Flow capacities shown are not inclusive of Pressure drop.
- All specifications can be changed for better performance without prior notice.
- Models with special specifications are available on request.

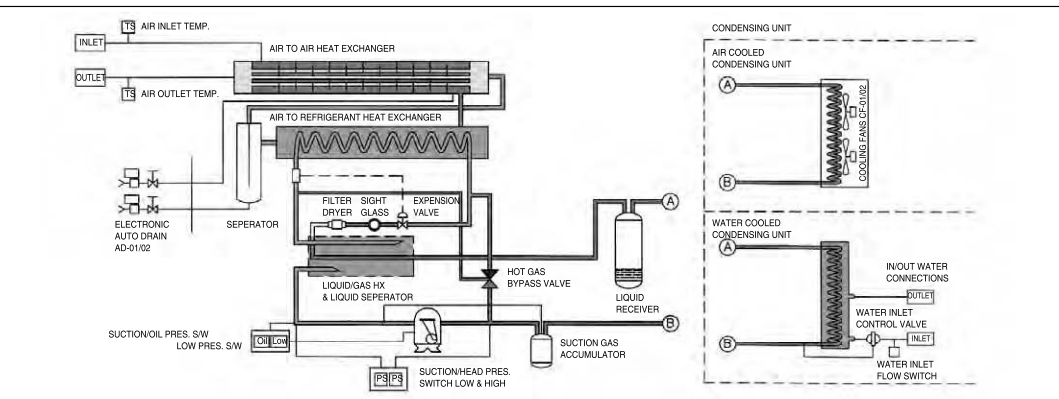
TAD 5-100



TAD 150-400



TAD 500-1200 & TAD 500W-6000W



1. Installation

■ Read this manual before installation to prevent repairs and to promote the life of the dryer.

■ Installation place

- ① Place the dryer on a flat surface.
- ② Make sure there is adequate ventilation
- ③ Avoid contact with acidic or alkali materials.
- ④ Avoid areas where combustible in a convenient location for electric wiring and pipe fitting.
- ⑤ The dryer should be protected from excessive dust vibration.
- ⑥ Install in a convenient place for maintenance.
- ⑦ Install in a location where ambient temperature is maintained between 35.1°F and 104°F.

■ Caution

- Things to avoid - Uneven place, vibration, sunlight, rain and moisture, inadequate ventilation, temperature below or above 35.1°F~104°F.
- If temperature falls below 35.6°F, the drain trap will freeze up.
- If the temperature exceeds 104°F, the dryer will be cease to operate.

2. Wiring

- Capacity is as the following:

Model Type	TAD-5~30	TAD-50	TAD-75	TAD-100
Voltage	AC 230, 220V / 1PH / 50Hz			
Cable(mm ²)	Over 1.25	Over 2.0	Over 5.5	

- A safety breaker should be installed to avoid electric leakage and shock.
- The dryer should be grounded to avoid electric shock.
- The voltage must not very $\pm 5\%$ of the rated voltage.

3. Operation

- After installation, please check the following :
- Pipe fitting and connections properly installed and is dryer wired properly?
- Is the By-pass valve closed?
- Is the drain discharge valve open?
- Check whether the fan is rotating in clockwise. In case the rotating direction is opposite, change R.S.T. - (TAD-100)
- Power source
- Is the power source the normal voltage?
- Is the fuse capacity proper for the voltage used?
- Operation
push the "ON" button to start operation.

When the lamp is on, operation of the dryer will begin within one minute of operation the refrigerant gauge indicator should read between 0.39Mpa~0.44Mpa.

After 3 minutes compressed air should be sent to the dryer. The compressed air should be sent slowly to the dryer to avoid damaging the machine.

■ Caution

- After the dryer is turn off, You must wait 5 minutes before resuming operation.
- During operation the fan will turn on and off repeatedly. The fan will start and stop automatically.

4. Safety device

A safety device is installed inside the machine, in case the safety device is activated the dryer will stop automatically.

- Motor protector
In case of power surges to the refrigerant compressor, the dryer will automatically stop.
- Resetting the safety device.
Remove any causes that triggered the safety device.
Push "ON" button to resume use.

5. Maintenance

- Check the auto drain trap.
- If the auto drain trap is 1/3 full, it is operating normally.
- Check regularly for air leakages.
- Check the water discharge for proper drainage.
- The condenser and after cooler should be dusted periodically.
- Cleaning condenser
The condenser should be cleaned periodically with a vacuum cleaner, brush, or air gun.
If there is excessive dust in the condenser, the safety device will operate and the will stop.

■ Caution

When cleaning the condenser, avoid damaging the fins.

- Electronic drain trap should be cleaned periodically

No.	Name	No.	Name
1	Nipple	6	Electronic valve
2	Valve	7	Timer
3	Y type socket	8	Timer
4	Strainer	9	ON time
5	Nipple	10	Test button

TAD05~TAD750 series

6. Adjusting Hot Gas By-pass Valve

The Hot Gas By-pass Valve is set in the factory before shipment.

In case of the dryer is operating abnormally, adjust the valve.

While adjusting the valve, watch the needs until it is operating within the proper range.

R-134A : In case the needle indicates above 0.22Mps ~ 0.29Mpa

⇒ Turn the valve nut counter clockwise

In case the needle indicate below 0.22Mpa ~ 0.29Mpa

⇒ Turn the valve nut clockwise

R-22 : In case the needle indicates above 0.39Mpa ~ 0.49Mpa

⇒ Turn the valve nut counter clockwise

In case the needle indicate below 0.39Mpa ~ 0.49Mpa

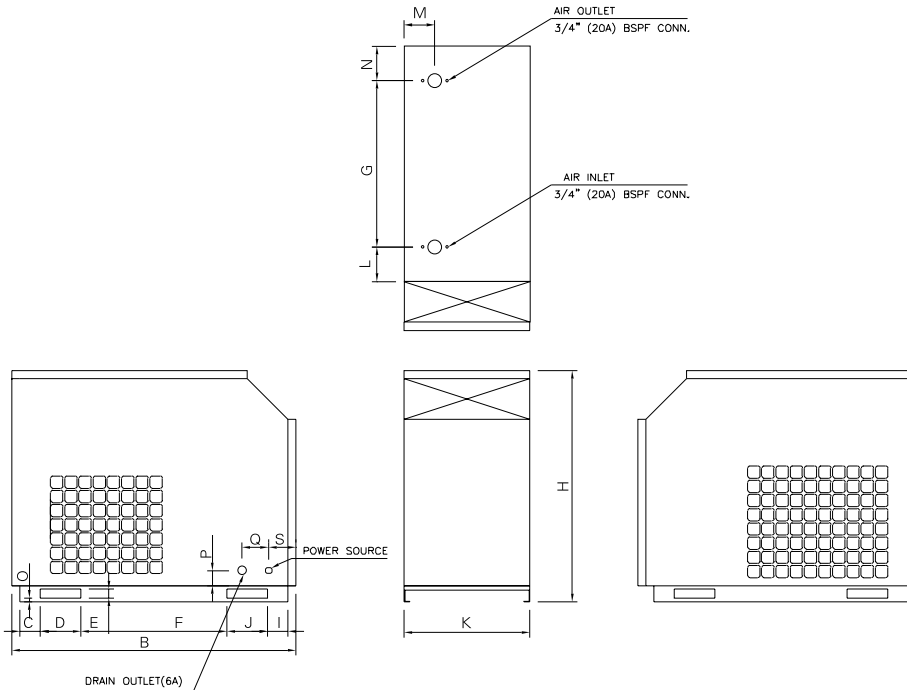
⇒ Turn the valve nut clockwise

7. Trouble shooting guide

If the dryer is not operating properly, check the following

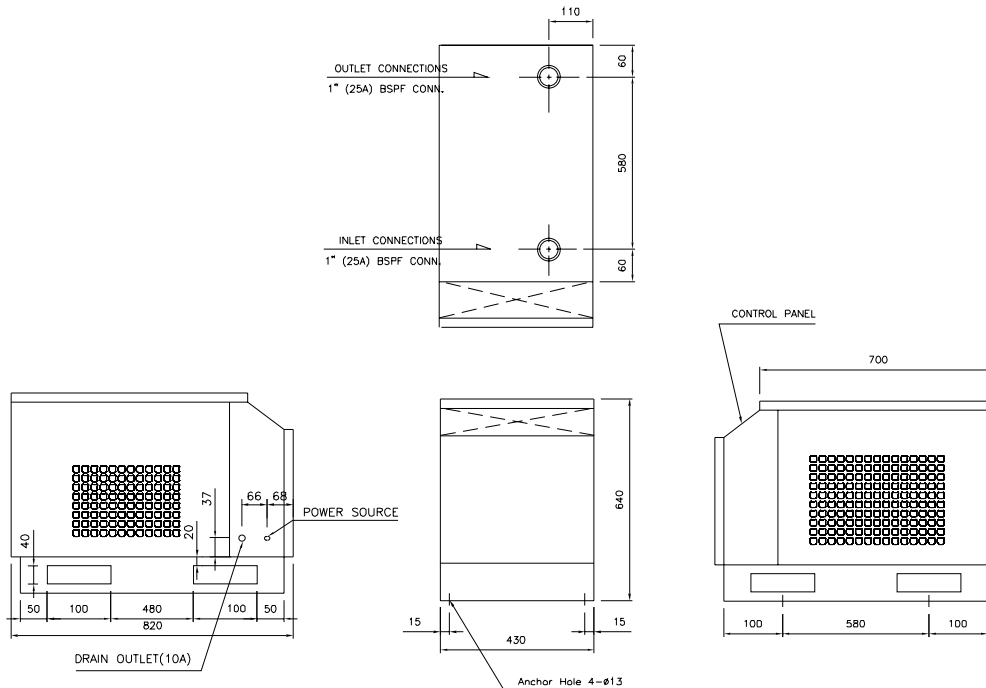
Symptoms		Cause	Remedy
1. Even if the operation switch is on, the dryer does not work.	1. Run lamp does not turn on.	1. Lamp break down. 2. Faulty switch. 3. Low electric power. 4. Faulty refrigerant compressor overload. 5. Faulty of magnet.	1. Replace. 2. Replace. 3. Check voltage correct. 4. Replace. 5. Check
	2. Run lamp turn on	1. Faulty T.H.R 2. Faulty refrigerant compressor 3. Faulty compressor overlay.	1. Replace 2. Replace 3. Replace
2. Water & oil come out, Even if the pressure gauge is normal.		1. Refrigerant leak. 2. Condenser clogged. 3. By-pass valve open. 4. Dregs in electronic drain. 5. Freeze-up of electronic drain.	1. Check gas leakage. 2. Clean 3. Close By-pass valve. 4. Disassemble and clean. 5. Raise ambient temp-higher than 2℃
3. Refrigerant pressure is. High, water and oil come out. Water and oil come out.		1. Dregs in electronic drain. 2. Freeze-up of electronic drain. 3. Too much air. 4. Cooling ability drop. 5. Faulty Hot gas by-pass valve. 6. Condenser clogged. 7. High ambient temperature. 8. Faulty fan motor. 9. Faulty pressure switch for fan control.	1. Disassemble and clean. 2. Raise ambient temp. higher than 2℃ 3. Adjust air volume. 4. Check refrigerant leakage. 5. Replace and adjust. 6. Clean 7. Lower ambient temp. 8. Replace 9. Replace
4. Water in auto drain not discharged.		1. Dregs in electronic valve. 2. Freeze-up of electronic valve.	1. Disassemble and clean. 2. Raise ambient temp. higher than 2℃
5. Fan motor does not operate.		1. Refrigerant leak. 2. Faulty refrigerant compressor. 3. Faulty fan motor. 4. Faulty pressure switch for fan control.	1. Check gas leakage. 2. Replace 3. Replace 4. Replace
6. Air outlet temperature is higher than or the same as air inlet temperature.		1. Refrigerant leakage. 2. Hot gas by-pass valve open. 3. Faulty refrigerant compressor 4. Cooling capacity drop. 5. Faulty hot gas by-pass valve. 6. Condenser clogged.	1. Check Gas leakage. 2. Close by-pass valve. 3. Replace 4. Check refrigerant leakage. 5. Replace and adjust 6. Clean
7. During operation, the dryer stops.		1. Faulty T.H.R 2. Faulty refrigerant compressor. 3. Faulty refrigerant compressor overload. 4. Faulty copressor relay.	1. Replace 2. Replace 3. Replace 4. Replace

TAD05 ~ 15 Dimensions



Model	A	B	C	D	E	F	G	H	I	J	K	L	N	M	O	P	Q	S
TAD 05~10	6A	665	50	100	22	325	410	510	50	100	310	50	85	75	10	37	66	68
TAD 15	10A	820	50	100	22	360	410	510	50	100	310	85	85	75	10	37	66	68

TAD20 ~ 30 Dimensions



PC

PF

PFH
PFU

PR

PL

PW

SH

TDF

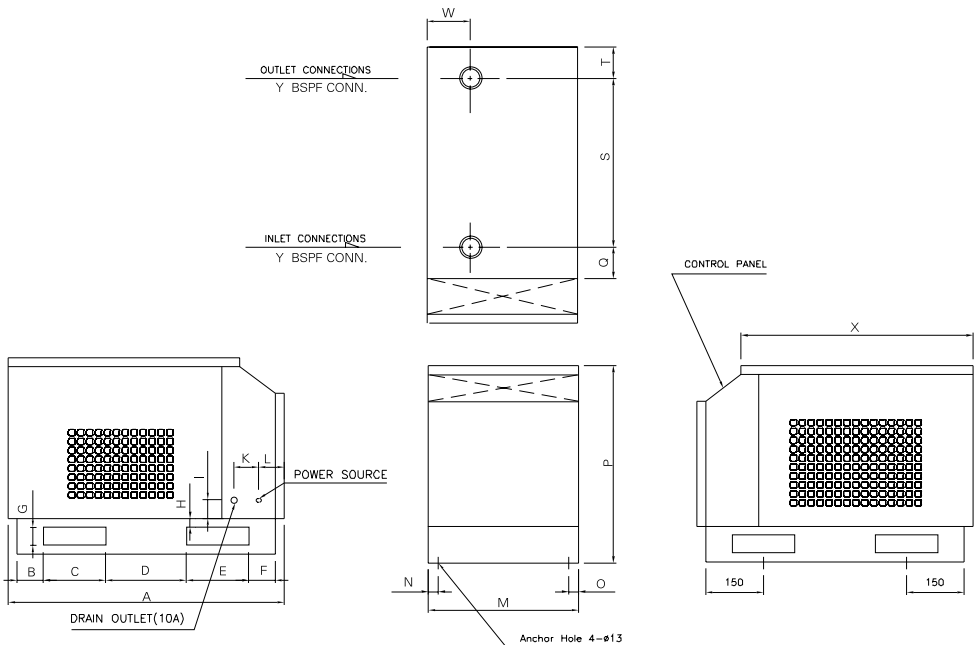
TAD

PER

EP

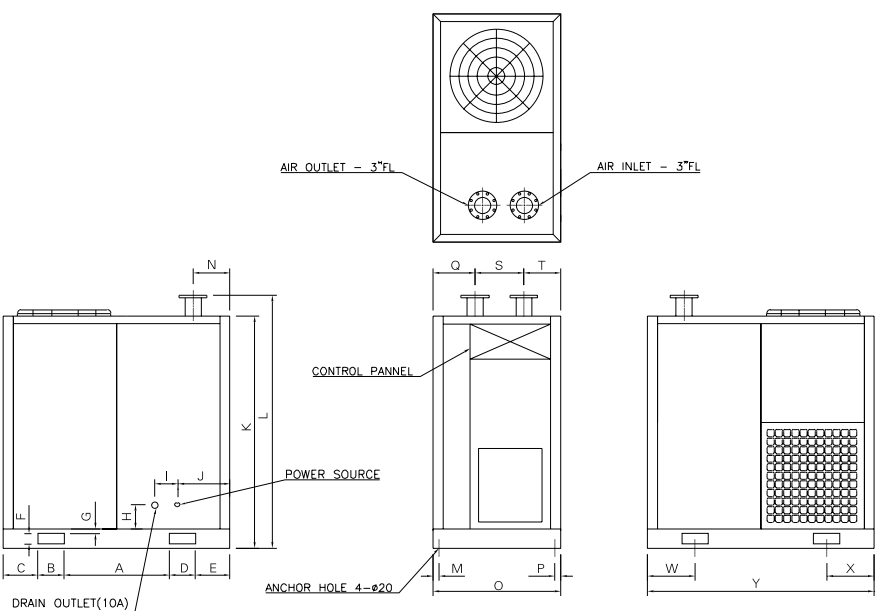
TAD05~TAD750 series

TAD50 ~ 100 Dimensions



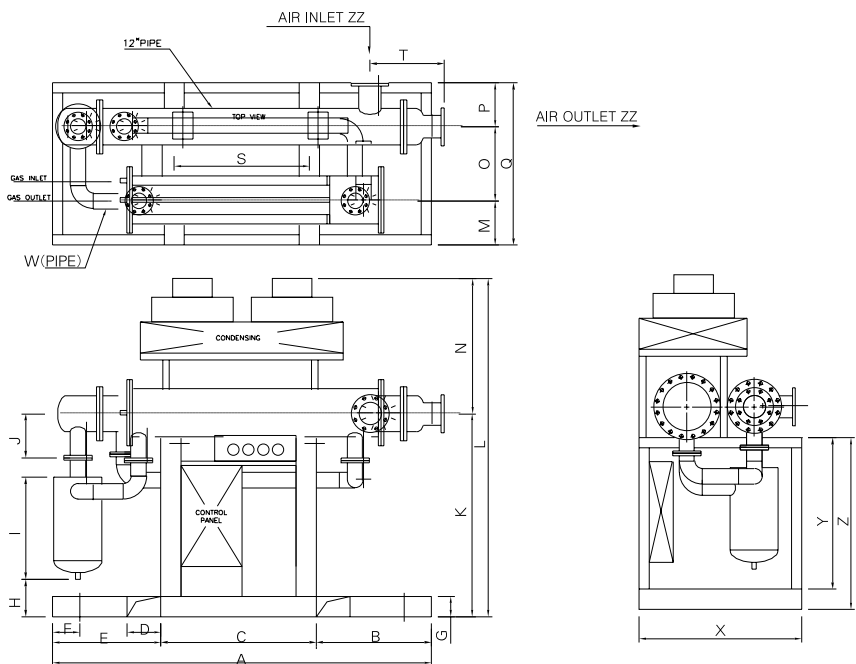
Model	A	B	C	D	E	F	G	H	I	K	L	N	M	O	P	Q	R	T	U	V	Y
TAD 50	940	60	180	420	180	60	60	20	37	66	68	15	490	15	640	60	700	60	140	820	1 1/2"(40A)
TAD 75	1090	60	180	570	180	60	50	20	37	66	68	15	570	15	930	70	830	70	175	970	2"(50A)
TAD100	1190	60	180	670	180	60	50	30	37	66	68	15	570	15	990	80	910	80	175	1070	2"(50A)

TAD150 ~ 400 Dimensions



Model	A	B	C	D	E	F	G	H	I	J	K	L	N	M	O	P	Q	S	T	W	Y	X
TAD 150 ~ 200	800	200	250	200	250	80	20	125	100	330	1700	1800	300	15	900	15	350	300	350	350	1700	350
TAD 300 ~ 400	1000	200	300	200	300	80	20	125	100	330	1700	1800	300	25	1000	25	350	300	350	400	2000	400

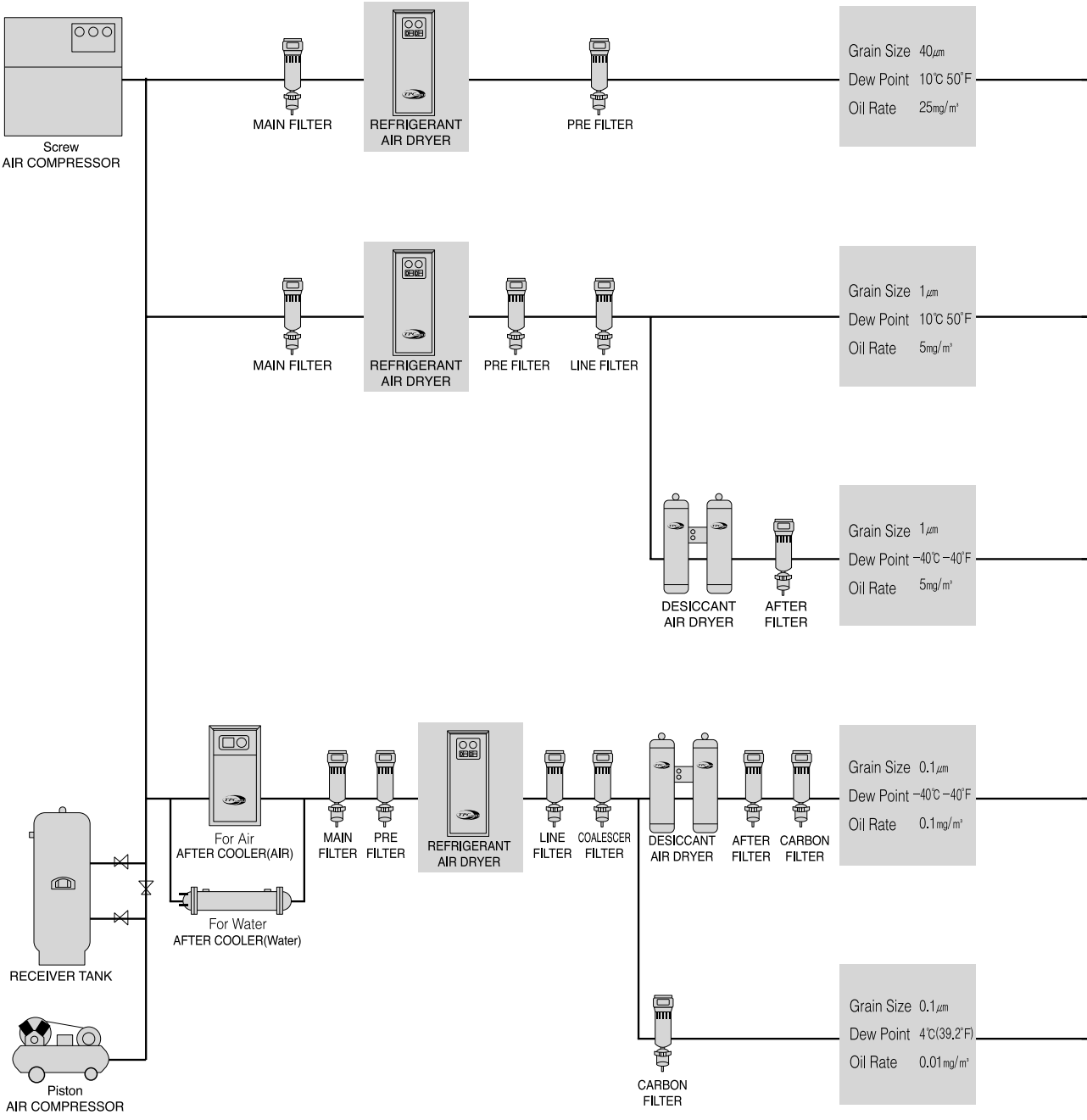
TAD500 ~ 750 Dimensions



Model	A	B	C	D	E	F	G	H	I	J	K	L	N	M	O	P	Q	S	T	W	Y	X	Z	ZZ
TAD 500	2800	850	1150	250	800	200	150	300	750	325	1500	2500	1000	325	550	325	1200	1000	550	5"	1122	1200	1272	6"
TAD 600	2800	850	1150	250	800	200	150	300	750	325	1500	2500	1000	325	550	325	1200	1000	550	5"	1122	1200	1272	6"
TAD 750	2800	850	1150	250	800	200	150	300	750	325	1500	2500	1000	325	550	325	1200	1000	550	6"	1122	1200	1272	8"



Applied Industry Fields / Application Areas-Main Line Air Treatment



PC

PF

PFH
PFU

PR

PL

PW

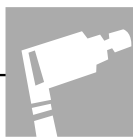
SH

TDF

TAD

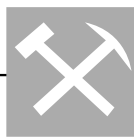
PER

EP



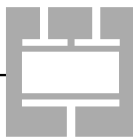
Service Air

- Air Tools



Mining Industry

- Air Tools
- Breathable Air



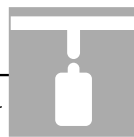
Service Air

- Control System
- Forging Facilities
- Blowing System
- Conveyor System



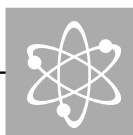
Electric Power Industry

- Gas Turbine & Gas Booster
- Control System
- Emergency Generator
- Gas Booster



Glass & PET Manufacture

- Control System
- Conveyor System
- Bottle Manufacture



Nuclear Power Industry

- Emergency Generator
- Control System
- Generator Cooling
- Service Air



Paper & Fabric Industry

- Control System
- Conveyor System
- Service Air



Machinery

- Automation System
- Service Air



Gas Industry

- Liquefaction
- Preservation
- Boosting



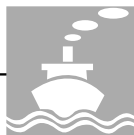
Painting Industry

- Painting
- Cleaning
- Service Air



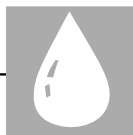
Air Supply Instrumentation

- Engine Starting System
- Service Air



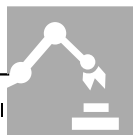
Heavy Industry

- Control System
- Engine Starting System
- Service Air



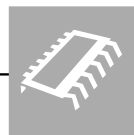
Petrochemical Industry

- Refinery
- Transmissions
- Processing



Automation Industry

- Control System
- Operating System



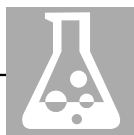
Electronic Industry

- Control System
- Heat Treatment System
- Coating System



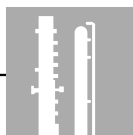
Pharmacy Industry

- Control System
- Conveyor, Mixing System
- Dentist's Air Tools
- Breathable Air



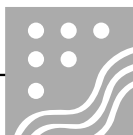
Chemical Industry

- Control System
- Chemical Reaction
- Conveyor System
- Service Air



Air-Liquefaction Separation

- Turn Key Engineering



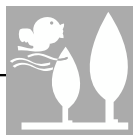
Powder & Liquid Mixing

- Anti-Oxidation System
- Mixing System
- Transmissions



Food Industry

- Packing
- Storing
- Fermentation
- Carbon Dioxide
- Refrigeration



Environment Industry

- Ozon Generator
- Wastewater Treatment
- Incineration Plant
- Dust Collection Plant
- Desulfurization Plant