

ColdPoint Coalescing Minimizes Pressure Drop

PRESSURE DROP...THE HIDDEN COST OF COMPRESSED AIR				
ITEM	CONVENTIONAL		AIRTEK COLDPOINT™ COALESCING	
	ΔP Range PSID	ΔP Average PSID	ΔP Range PSID	ΔP Average PSID
PARTICULATE PREFILTER	1 - 15	7.5	0	0
DRYER	3 - 5	5.0	4 - 13 <small>INCLUDES COLDPOINT COALESCER</small>	5.5 <small>INCLUDES COLDPOINT COALESCER</small>
COALESCING AFTER FILTER	1 - 15	7.5	0	0
TOTAL	5 - 35	20	4 - 13	5.5

EXAMPLE: Cost of Pressure Drop, 100 HP Compressed Air System	
$KW = BHP \times \frac{.746}{.90}$ $= 108 \times \frac{.746}{.90}$ $= 90 \text{ KW}$	$ANNUAL \text{ POWER COST} = KW \times \$/KWH \times \text{HRS/YR}$ $= 90 \times \$.08 \times 8000$ $= \$57,600.00$
$1 \text{ PSIG PRESSURE DROP} = 1/2\% \text{ OF TOTAL POWER COST}$ $= .005 \times \$57,600.00$ $= \$288.00$	
CONVENTIONAL SYSTEM $20 \text{ PSIG } \Delta P = \$288.00 \times 20 \text{ PSIG}$ $= \$5,760.00$	AIRTEK COLDPOINT COALESCING® $5.5 \text{ PSIG } \Delta P = \$288.00 \times 5.5 \text{ PSIG}$ $= \$1,584.00$
SAVINGS = COST OF ΔP CONVENTIONAL - COST OF AIRTEK COLDPOINT COALESCING® $= \$5,760.00 - \$1,584.00$ $= \$4,176.00 \text{ PER YEAR}$	

Engineering Data Specifications

MODEL	Capacity SCFM @ 100 PSIG	Ref. HP	Dimensions				Approx. Weight	Connection IN/OUT
			L	W	Height ES	Height ECP		
ES10	10	1/6	18	15	14	NA	69	1/2"
ES20	20	1/5	18	15	14	NA	78	1/2"
ES30	30	1/4	34	14	23	NA	140	3/4"
ES / ECP 40	40	1/3	34	14	23	23	160	1"
ES / ECP 60	60	1/2	34	14	23	23	176	1"
ES / ECP 80	80	1/2	35	20	32	33	220	1"
ES / ECP100	100	3/4	35	20	32	33	256	1"
ES / ECP130	130	3/4	35	20	32	33	258	1-1/2"
ES / ECP150	150	3/4	35	20	32	33	270	1-1/2"
ES / ECP 220	220	1	47	22	38	38	390	2"
ES / ECP 250	250	1-1/2	47	22	38	38	418	2"
ES / ECP 330	330	1-1/2	55	28	52	52	700	2"
ES / ECP 400	400	2	55	28	52	52	925	2-1/2" NPT
ES / ECP 500	500	3	55	28	52	52	968	2-1/2" NPT
ES / ECP 650	650	3	55	28	52	52	982	2-1/2" NPT
ES / ECP 800	800	4	74	41	61	61	1620	3" FLG
ES / ECP1000	1000	5	74	41	61	61	1860	3" FLG
ES / ECP1200	1200	5	74	41	61	61	1754	3" FLG
ES / ECP1500	1500	7-1/2	78	48	62	65	2365	4" FLG
ES / ECP 2000	2000	10	102	54	67	72	3150	6" FLG
ES / ECP 2500	2500	15	102	54	67	72	3370	6" FLG
ES / ECP 3000	3000	15	108	66	77	83	4015	6" FLG

Notes:

- Rated conditions meet recommended Standard NFPA/T3.27.2-198 (ANSI B93, 45M) and CAGI Standard No. ADF 100 for Class H 33°F - 39°F (1°C - 4°C) pressure dew point, based on 100 PSIG (6.9 Bar) inlet air pressure, 100°F (38°C) inlet air temperature, 85°F (29°C) cooling water temperature and 100°F (38°C) Ambient air temperature. Maximum air side pressure drop is 5 psi (0.3 Bar). See actual pressure drop listed for each model.
- Voltages: 120v/1 -ES/ECP10 to 150, 208/230/1-ES/ECP220 to 330, 480v/3 -ES/ECP400 to 3000
- Due to continuing research and development, specifications and dimensions are subject to change without notice.
- All ECP Dryers weigh approximately 3% more.

ES prefix designates non-cycling configuration
 ECP prefix designates non-cycling ColdPoint™ Coalescing configuration

Correction Factors

A INLET AIR PRESSURE CORRECTION						B AMBIENT AIR TEMPERATURE CORRECTION					C INLET AIR TEMPERATURE CORRECTION						
PSI	50	75	100	125	150	TEMP °F	90	100	110	-	-	TEMP °F	80	90	100	110	120
BAR	3.5	5.2	6.9	8.6	10.3	°C	32	38	43	-	-	°C	27	32	38	43	49
FACTOR	0.8	0.9	1	1.02	1.05	FACTOR	1.05	1	0.9	-	-	FACTOR	1.5	1.22	1	.83	.69
EXAMPLE CONDITION						EXAMPLE CALCULATIONS											
ES/ECP 500 CORRECTED FOR: Inlet Pressure.....125 PSIG / 8.6 BAR Inlet Temperature.....120° F / 49° C Ambient Temperature.....110° F / 43° C						CORRECTED CAPACITY = STANDARD CAPACITY X (A) X (B) X (C) = 520 SCFM (13.9 Nm ³ /min) X (1.02) X (.9) X (.69) = 329 SCFM (8.8 Nm ³ /min)											