



MTRL

Medium pressure with backward impeller and belt transmission

Ventilador a transmisión con turbina a reacción

EN

ES



MANUFACTURING FEATURES

- Fan made of Fe360 sheet. The fan paint finish is based on a Qualicoat polyester powder coating stoved at 200°C, with an average film thickness of 70 microns. Average heat resistance of coating is 180°C with peaks of 200°C.
- Fully welded or joined housing.
- Single inlet backward curved impeller made of Fe360 sheet statically and dynamically balanced. Impellers are painted with epoxy primer that resists temperatures up to 300°C.
- Motorized fan with basement (configuration 12). Full equipped fans including: motor, pulleys, belts, belts guard and shaft guard. Fitted over a base plate.
- Standard orientation LG270.
- It allows adjusting the orientation locally from models 250 to 630. Models sizes from 710 to 2000 size the orientation is fixed.

APPLICATIONS

Designed for inline installation, they are suitable for:

- Industrial applications, extraction or injection of air.
- Cooling of machines and parts.
- Clean air and pneumatic transport.
- Exhaust after filters, separators and cyclones.
- Clean air or slightly dusty air transport.
- Maximum working temperature: carried air: 200°C, ambient: 60°C.

UNDER REQUEST

- 60Hz fans and special voltages.
- 2 speed motors.
- Fan with free shaft (configuration 1) or with motor supported on the pedestal side (configuration 9).
- Flameproof or explosionproof fans with ATEX certificated motors.
- Fan for air working temperatures up to 350°C with R/R (cooling impeller).
- Hot dip galvanized or stainless steel fans.
- Orientación: RD0, RD45, RD90, RD135, RD180, RD225, RD270, RD315, LG0, LG45, LG90, LG135, LG180, LG225, LG315.

CARACTERÍSTICAS CONSTRUCTIVAS

- Ventilador fabricado en chapa Fe360. La pintura de los ventiladores está formulada a base de poliéster en polvo Qualicoat polimerizada a 200°C con un grosor medio de 70 micras. La resistencia térmica media de la pintura es de 180°C con picos de 200°C.
- Carcasa totalmente soldada o engatillada.
- Turbina de álabes curvados hacia atrás (a reacción) de simple aspiración y alto rendimiento, fabricada en Fe360 equilibrada estática y dinámicamente. Las turbinas se pintan con imprimación epoxídica con una resistencia térmica de 300°C.
- Ventilador con motor montado sobre bancada (sistema 12). Equipo completo que incluye: motor, correas, poleas, protector de transmisión y eje
- Orientación estándar LG270.
- Permite variar la orientación en destino, en los modelos del 250 al 630. En los tamaños que van del 710 al 2000, la orientación es fija.

APLICACIONES

Diseñados para instalación en conducto, son indicados para:

- Procesos industriales, extracción o inyección localizada.
- Refrigeración de máquinas, enfriamiento de piezas.
- Transporte de aire limpio o ligeramente polvoriento.
- Aspiración después de filtros, separadores y ciclones.
- Transporte neumático.
- Temperatura máxima de trabajo en continuo: aire transportado: 200°C, ambiente: 60°C.

BAJO DEMANDA

- Ventiladores para trabajar a 60Hz y voltajes especiales.
- Motor 2 velocidades.
- Ventilador a eje libre (sistema 1) o con motor en mochila (sistema 9).
- Ventiladores antichispas con motor certificado ATEX. Otras clasificaciones ATEX.
- Ventilador preparado con rodete de refrigeración para trabajar hasta 350°C.
- Ventilador fabricado en chapa galvanizada en caliente o acero inoxidable.
- Orientación: RD0, RD45, RD90, RD135, RD180, RD225, RD270, RD315, LG0, LG45, LG90, LG135, LG180, LG225, LG315.

ACCESSORIES accesorios



MEDIUM PRESSURE CENTRIFUGAL FANS

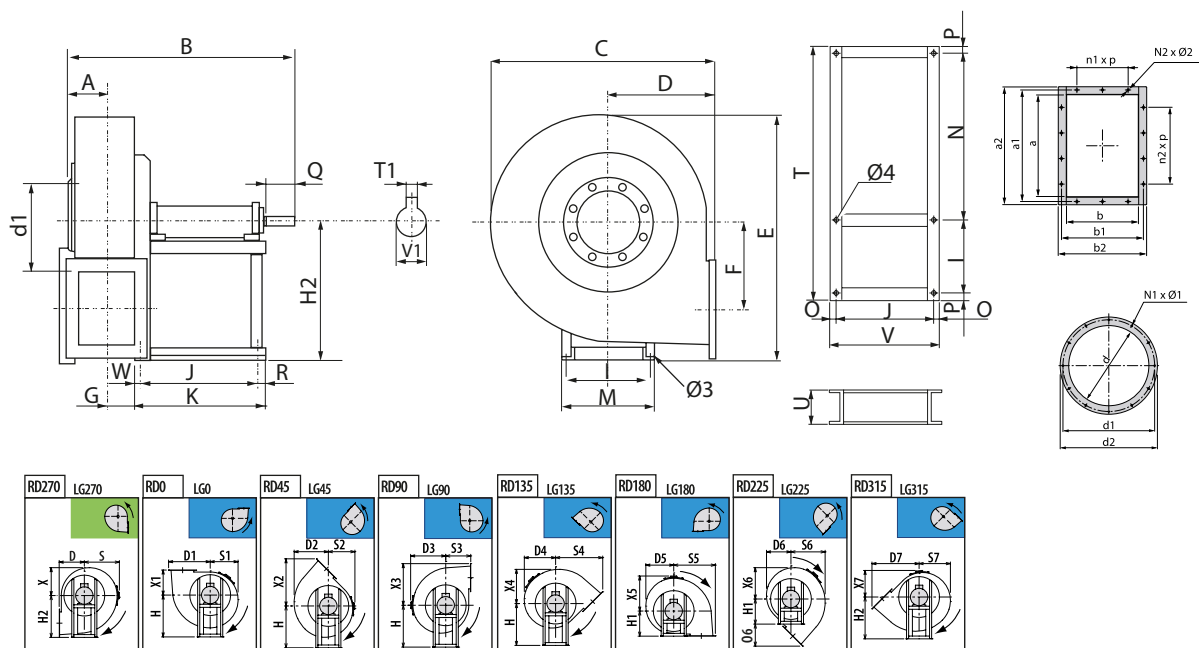
Ventiladores centrífugos de media presión



BELT DRIVEN / transmisión

Code	Model	R.P.M. min	R.P.M. max	Rated Power kW	Air flow m³/h	Sound dB (A)	Weight Kg	Connection diagram
5046025_R	MTRL 250	1.700	3500	3	2.950	60	(s.1) 32	1
5046028_R	MTRL 280	1.500	3500	3	3.790	62	(s.1) 46	1
5046031_R	MTRL 310	1.350	3500	4	6.120	64	(s.1) 50	1
5046035_R	MTRL 350	1.200	3500	4	7.960	68	(s.1) 76	1
5046040_R	MTRL 400	1.100	3500	11	12.660	72	(s.1) 92	1
5046045_R	MTRL 450	950	3300	15	16.740	76	(s.1) 105	1
5046050_R	MTRL 500	850	3000	15	19.180	76	(s.1) 145	1
5046056_R	MTRL 560	750	2600	22	25.560	77	(s.1) 196	1
5046063_R	MTRL 630	700	2300	22	32.770	77	(s.1) 239	1
5046071_R	MTRL 710	600	2100	37	43.820	78	(s.1) 360	1
5046080_R	MTRL 800	550	1900	45	52.910	79	(s.1) 442	1
5046090_R	MTRL 900	500	1700	55	66.720	79	(s.1) 570	1
5046100_R	MTRL 1000	500	1400	55	74.170	78	(s.1) 800	1
5046112_R	MTRL 1120	400	1300	90	105.580	79	(s.1) 1065	1
5046125_R	MTRL 1250	350	1150	90	122.400	79	(s.1) 1258	1
5046140_R	MTRL 1400	350	1050	132	158.510	80	(s.1) 1712	1
5046160_R	MTRL 1600	300	950	160	199.990	81	(s.1) 2363	1
5046180_R	MTRL 1800	250	800	200	250.730	80	(s.1) 2912	1
5046200_R	MTRL 2000	250	800	315	344.310	79	(s.1) 3413	1

DIMENSIONS / dimensiones



MODEL	Ø 3	Ø 4	A	B	C	D	D1	D2	D3	D4	D5	D6	D7	E	F	G	H	H1
MTRL 250	10	12	94	530	471	195	313	255	276	235	212	215	359	527	149	96	315	195
MTRL 280	12	15	105	620	505	200	356	287	305	262	230	226	393	605	172	105	375	200
MTRL 310	12	15	117	644	557	225	397	316	332	288	256	253	440	656	196	117	400	225
MTRL 350	14	15	130	816	630	255	437	359	375	325	289	278	492	739	216	131	450	255
MTRL 400	14	15	147	869	685	285	487	387	400	353	311	306	543	811	245	147	500	285
MTRL 450	14	15	163	902	765	320	542	435	445	398	354	342	609	914	275	165	560	320
MTRL 500	17	18	183	1047	862	360	597	490	502	450	401	380	676	1001	303	185	600	360

MODEL	H2	I	J	K	M	N1xØ1	N2xØ2	O	O6	P	Q	R	S	S1	S2	S3	S4	S5
MTRL 250	315	228	210	282	255	8x10	10x12	17	164	13,5	40	-	276	212	215	195	359	313
MTRL 280	375	288	284	347	324	8x12	10x12	23	193	18	50	-	305	230	226	200	393	356
MTRL 310	400	288	284	347	324	8x12	10x12	23	215	18	50	-	332	256	253	225	440	397
MTRL 350	450	355	407	485	400	8x12	10x12	28	237	13	60	-	375	289	278	255	492	437
MTRL 400	500	355	407	485	400	12x12	14x12	28	258	23	80	-	400	311	306	285	543	487
MTRL 450	560	355	407	485	400	12x12	14x12	28	289	23	-	-	445	354	342	320	609	542
MTRL 500	600	364	477	560	418	12x14	14x12	33	316	27	110	33	502	401	380	360	676	597

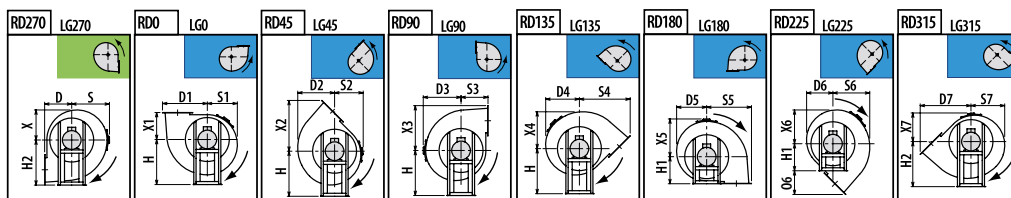
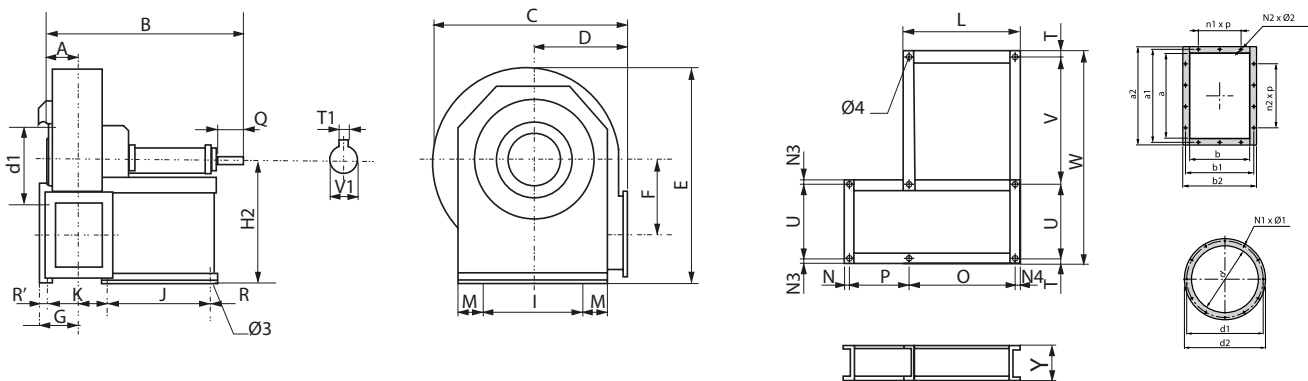
MEDIUM PRESSURE CENTRIFUGAL FANS



Ventiladores centrífugos de media presión

MODEL	S6	S7	T	T1	U	V	V1	W	X	X1	X2	X3	X4	X5	X6	X7	a	a1
MTRL 250	255	235	6	6	80	19	19	55	212	195	359	313	255	276	235	215	258	292
MTRL 280	287	262	8	8	100	24	24	40	230	200	393	356	287	305	262	226	288	332
MTRL 310	316	288	8	8	100	24	24	40	256	255	440	397	316	332	288	253	322	366
MTRL 350	359	325	8	8	120	28	28	50	289	255	492	437	359	375	325	278	361	405
MTRL 400	387	353	10	10	120	38	38	50	311	285	543	487	387	400	353	306	404	448
MTRL 450	435	398	10	10	120	38	38	50	354	320	609	542	435	445	398	342	453	497
MTRL 500	490	450	12	12	140	42	42	50	401	360	676	597	490	502	450	380	507	551

MODEL	a2	b	b1	b2	d	d1	d2	n1xp	n2xp
MTRL 250	328	185	219	255	255	292	325	1x112	2x112
MTRL 280	368	205	249	285	285	332	365	1x125	2x125
MTRL 310	402	229	273	309	320	366	400	1x125	2x125
MTRL 350	441	256	300	336	360	405	440	1x125	2x125
MTRL 400	484	288	332	368	405	448	485	2x125	3x125
MTRL 450	533	322	366	402	455	497	535	2x125	3x125
MTRL 500	587	361	405	441	505	551	585	2x125	3x125



MODEL	Ø 3	Ø 4	A	B	C	D	D1	D2	D3	D4	D5	D6	D7	E	F	G	H	H1
MTRL 560	17	18	205	1177	970	400	667	555	570	542	485	425	754	1155	332	255	670	400
MTRL 630	17	18	230	1233	1080	450	742	619	630	603	540	476	843	1290	373	280	750	450

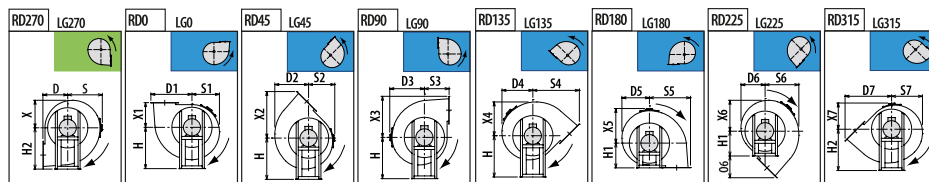
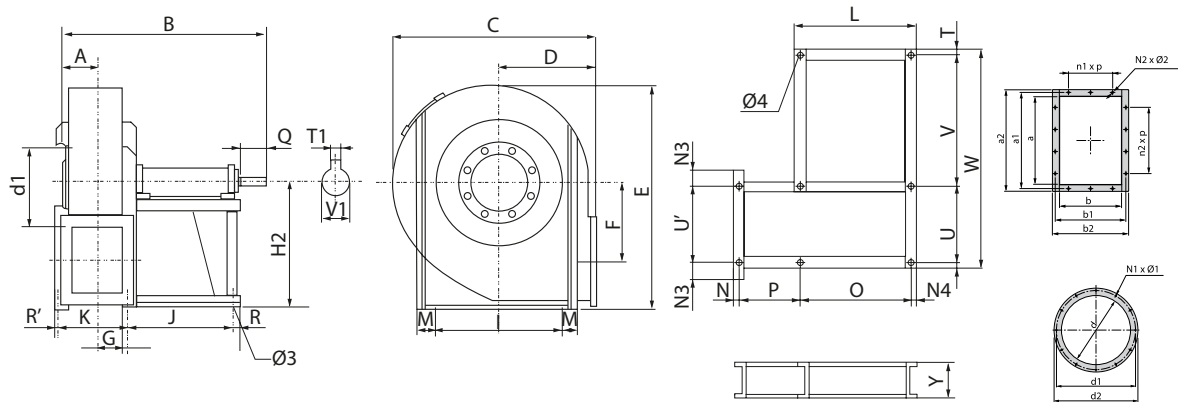
MODEL	H2	I	J	K	L	M	N	N1	N1xØ1	N2xØ2	N3	N4	O	O6	P	Q	R	S
MTRL 560	670	632	477	488	543	30	23	33	12x14	14x14	30	33	477	354	488	110	33	570
MTRL 630	750	702	477	537	543	30	23	33	12x14	14x14	30	33	477	393	537	110	33	630

MODEL	S1	S2	S3	S4	S5	S6	S7	T	T1	U	V	V1	W	X	X1	X2	X3	X4
MTRL 560	485	425	400	754	667	555	542	14	14	632	678	48	1370	30	400	754	667	555
MTRL 630	540	476	450	843	742	619	603	30	14	702	708	48	1470	30	450	843	742	619

MODEL	X5	X6	X7	Y	a	a1	a2	b	b1	b2	d	d1	d2	n1xp	n2xp
MTRL 560	570	542	42	5 160	569	629	669	404	464	504	565	629	665	2x160	3x160
MTRL 630	630	603	47	6 160	638	698	738	453	513	553	635	698	735	2x160	3x160

MEDIUM PRESSURE CENTRIFUGAL FANS

Ventiladores centrífugos de media presión



MODEL	Ø 3	Ø 4	A	B	C	D	D1	D2	D3	D4	D5	D6	D7	E	F	G	H	H1
MTRL 710	19	20	257	1340	1190	500	835	719	690	662	586	497	944	1436	427	314	850	500
MTRL 800	19	20	287	1422	1342	560	939	811	782	749	652	562	1061	1602	478	345	950	630
MTRL 900	19	20	322	1491	1500	630	1047	905	870	835	723	633	1186	1783	538	399	850	630
MTRL 1000	19	20	360	1710	1686	710	1171	1015	976	936	815	718	1330	1995	607	458	950	710
MTRL 1120	24	25	404	1941	1884	800	1319	1132	1084	1037	932	793	1498	2252	684	501	1060	800
MTRL 1250	24	25	452	2038	2114	900	1474	1270	1214	1163	1048	898	1679	2548	770	549	1190	900
MTRL 1400	24	25	507	2252	2325	1000	1635	1395	1325	1272	1136	990	1863	2836	854	634	1320	1000
MTRL 1600	28	30	569	2590	2620	1120	1834	1572	1500	1434	1272	1085	2090	3172	957	695	1500	1120
MTRL 1800	28	30	636	2750	2760	1250	2039	1790	1710	1640	1470	1300	2326	3590	1066	764	1650	1250
MTRL 2000	28	30	713	2905	3300	1400	2277	1980	1900	1811	1636	1455	2600	3996	1195	861	1850	1400

MODEL	H2	I	J	K	L	M	N	N1	N1xØ1	N2xØ2	N3	N4	O	O6	P	Q	R	R'
MTRL 710	670	772	551	600	629	27	27	39	16x14	16x14	71	39	551	444	600	110	39	27
MTRL 800	755	862	551	662	629	32	47	39	16x14	14x14	91	39	551	501	662	110	39	47
MTRL 900	850	962	551	731	629	32	47	39	16x14	18x14	91	39	551	556	731	110	39	47
MTRL 1000	950	1056	607	803	697	36	67	45	24x14	18x14	92	45	607	620	803	140	45	67
MTRL 1120	1060	1178	760	926	850	45	55	45	24x14	20x18	111	45	760	398	926	140	45	55
MTRL 1250	1190	1310	760	1023	850	45	55	45	24x17	24x18	110	45	760	779	1023	140	45	55
MTRL 1400	1320	1450	780	1152	890	55	85	55	32x17	24x18	120	55	780	863	1152	170	55	85
MTRL 1600	1500	1640	917	1305	1047	60	75	65	32x17	28x22	120	65	917	970	1305	210	65	75
MTRL 1800	1650	1830	917	1452	1047	60	65	65	32x18	32x22	130	65	917	1076	1452	210	65	65
MTRL 2000	1850	2030	917	1606	1047	60	85	65	32x18	34x22	170	65	917	1200	1606	210	65	85

MODEL	S	S1	S2	S3	S4	S5	S6	S7	T	T1	U	U'	V	V1	W	X	X1	X2
MTRL 710	690	586	497	500	944	835	719	662	27	14	772	772	807	48	1633	71	500	944
MTRL 800	782	652	562	560	1061	939	811	749	32	16	862	862	842	55	1768	91	560	1061
MTRL 900	870	723	633	630	1186	1047	905	835	32	16	962	962	987	55	2013	91	630	1186
MTRL 1000	976	815	718	710	1330	1171	1015	936	36	18	1056	1056	1036	65	2164	99	710	1330
MTRL 1120	1084	932	793	800	1498	1319	1132	1037	45	20	1178	1178	1066	75	2334	111	800	1498
MTRL 1250	1214	1048	898	900	1679	1474	1270	1163	45	20	1310	1310	1230	75	2630	110	900	1679
MTRL 1400	1325	1136	990	1000	1863	1635	1395	1272	55	22	1450	1450	1240	80	2800	120	1000	1863
MTRL 1600	1500	1272	1085	1120	2090	1834	1572	1434	60	25	1640	1640	1205	90	2965	120	1120	2090
MTRL 1800	1710	1470	1300	1250	2326	2039	1790	1640	60	28	1830	1830	1295	100	3245	130	1250	2326
MTRL 2000	1900	1636	1455	1400	2600	2277	1980	1811	60	28	2030	2030	1350	100	3500	170	1400	2600

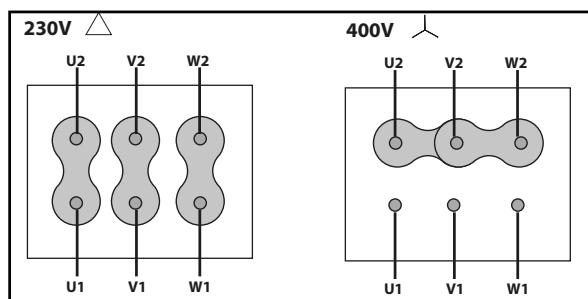
MODEL	X3	X4	X5	X6	X7	Y	a	a1	a2	b	b1	b2	d	d1	d2	n1xp	n2xp
MTRL 710	835	719	690	662	497	180	715	775	815	507	567	607	715	775	815	2x160	4x160
MTRL 800	939	811	782	749	562	180	801	871	921	569	639	689	805	861	905	2x200	3x200
MTRL 900	1047	905	870	835	633	180	898	968	1018	638	708	758	905	958	1005	3x200	4x200
MTRL 1000	1171	1015	976	936	718	200	1007	1077	1127	715	785	835	1007	1067	1107	3x200	4x200
MTRL 1120	1319	1132	1084	1037	793	220	1130	1210	1270	801	881	941	1130	1200	1250	3x200	5x200
MTRL 1250	1474	1270	1214	1163	898	220	1267	1347	1407	898	978	1038	1260	1337	1380	4x200	6x200
MTRL 1400	1635	1395	1325	1272	990	220	1421	1501	1561	1007	1087	1147	1420	1491	1540	4x200	6x200
MTRL 1600	1834	1572	1500	1434	1085	220	1593	1683	1753	1130	1220	1290	1610	1663	1730	5x200	7x200
MTRL 1800	2039	1790	1710	1640	1300	250	1786	1876	1946	1267	1357	1427	1810	1856	1930	6x200	8x200
MTRL 2000	2277	1980	1900	1811	1455	250	2003	2093	2163	1421	1511	1581	2010	2073	2130	6x200	9x200



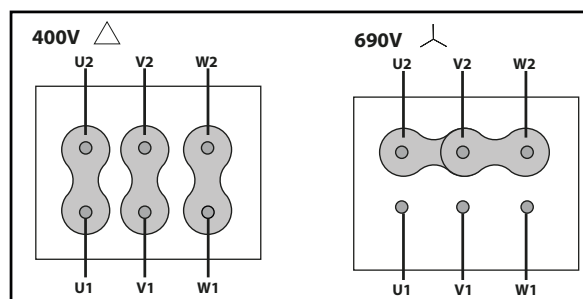
CONNECTION DIAGRAMS / esquema de conexiones

1 THREE PHASE MOTORS 1 SPEED / motores trifásicos 1 velocidad

230/400V



400/690V

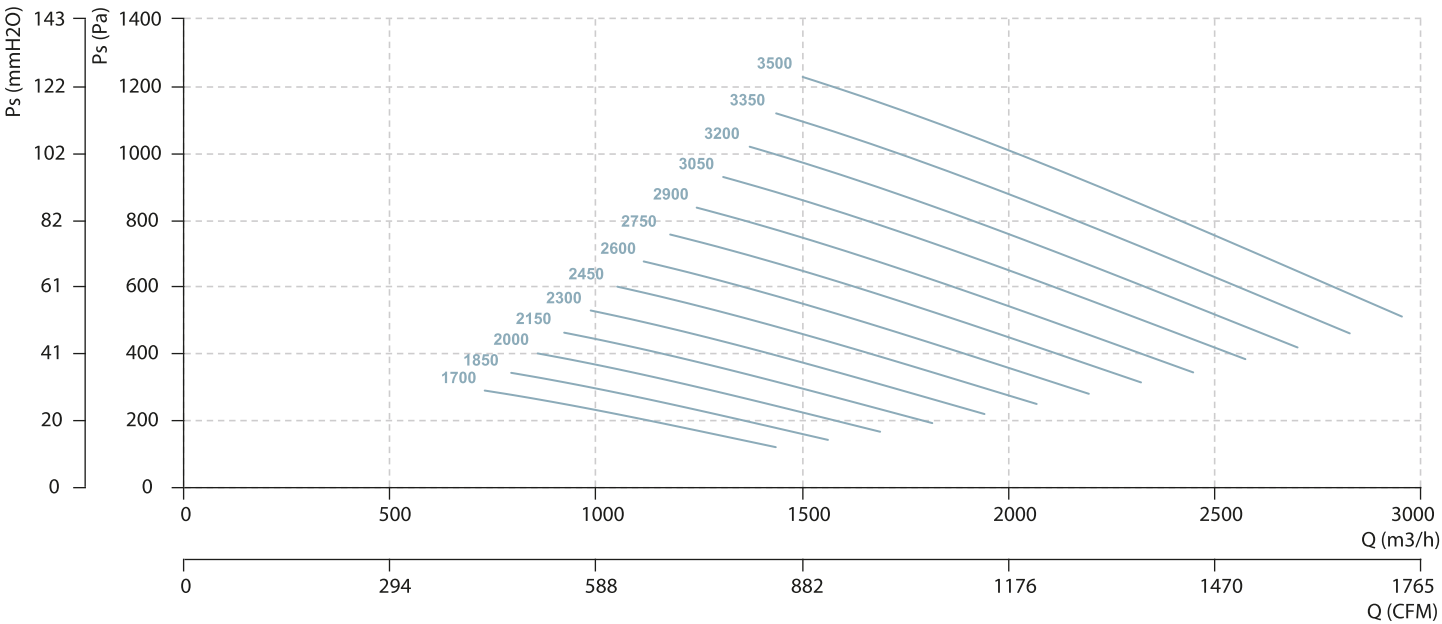




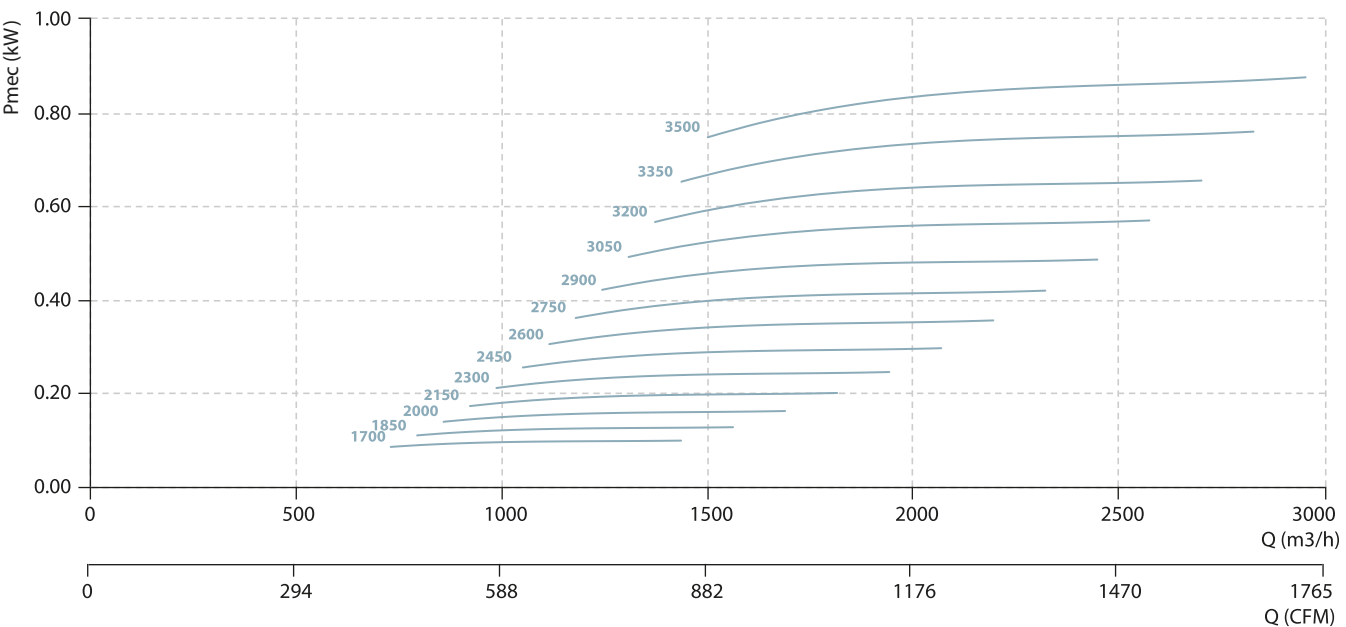
CHARACTERISTIC CURVES / curvas características

1 MTRL 250

AIR FLOW- PRESSURE / caudal - presión



AIR FLOW- MECHANICAL POWER / caudal - potencia mecánica



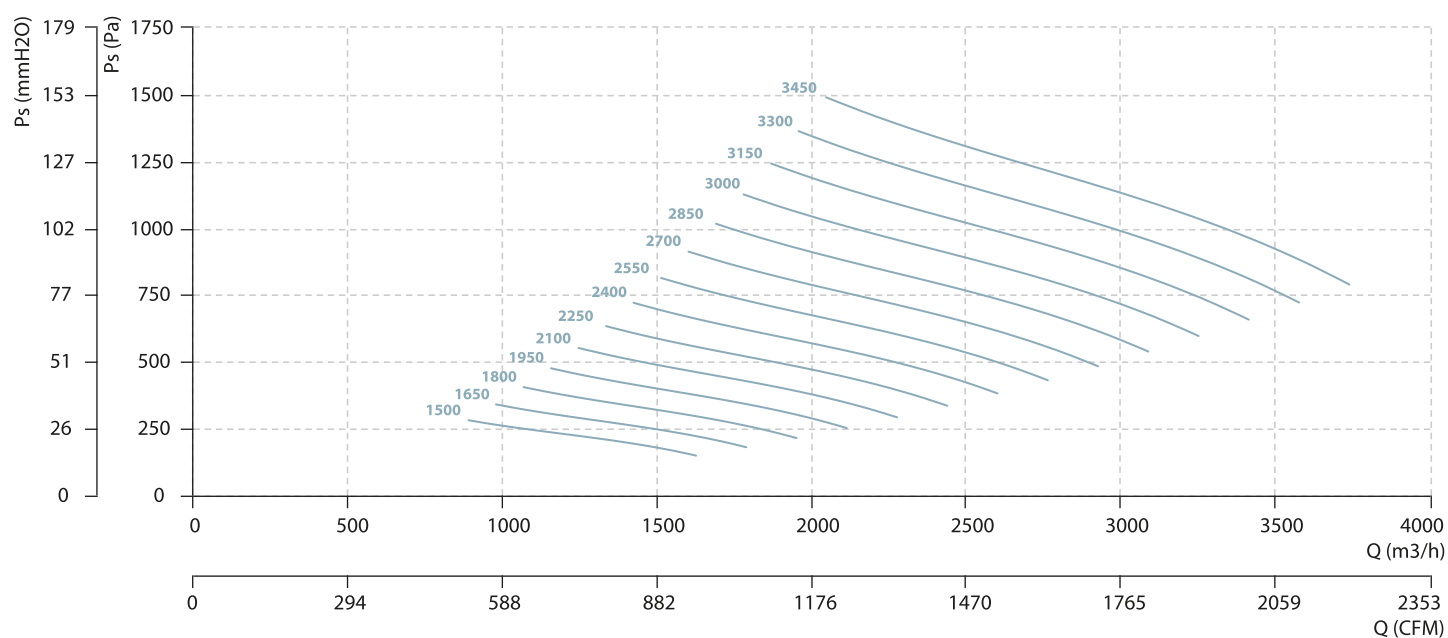
MEDIUM PRESSURE CENTRIFUGAL FANS



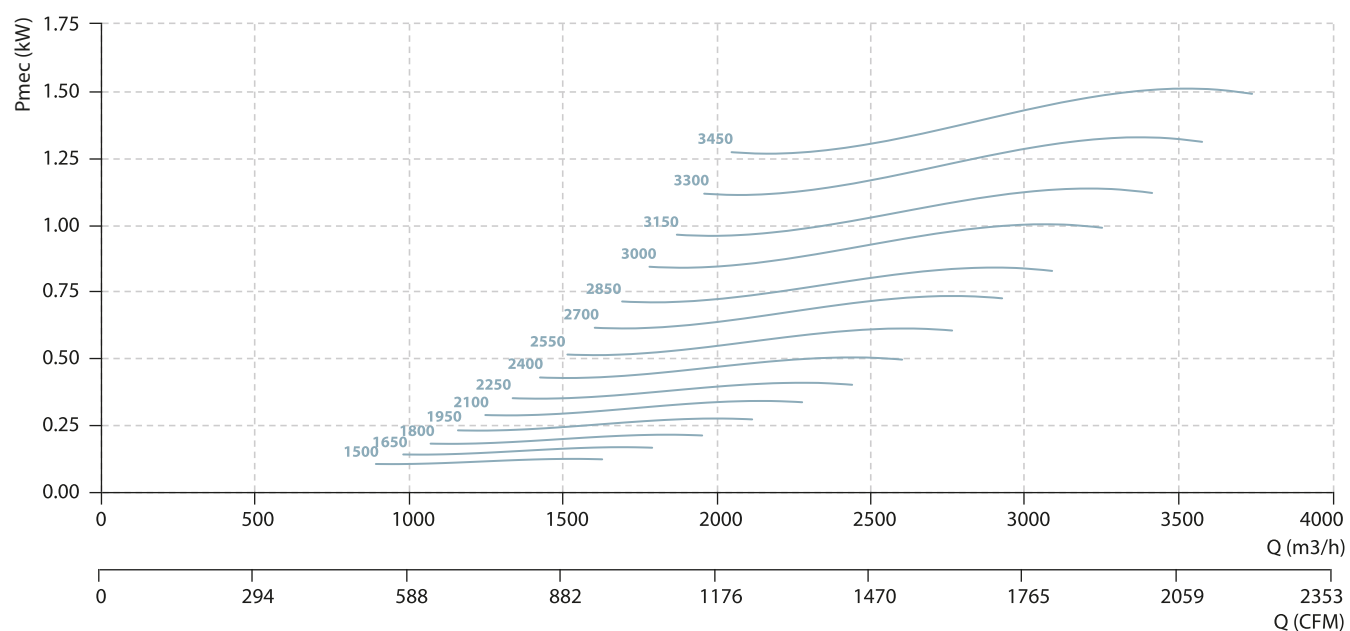
Ventiladores centrífugos de media presión

1 MTRL 280

AIR FLOW- PRESSURE / caudal - presión



AIR FLOW- MECHANICAL POWER / caudal - potencia mecánica



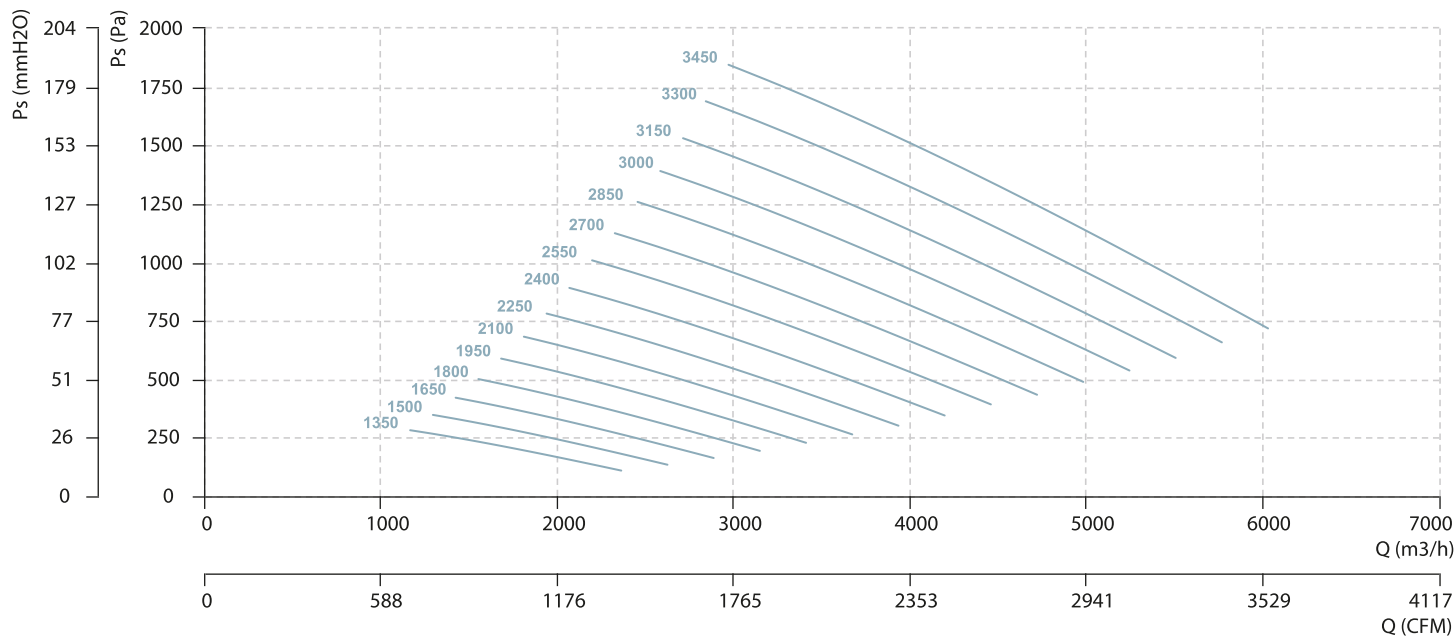
MEDIUM PRESSURE CENTRIFUGAL FANS

Ventiladores centrífugos de media presión

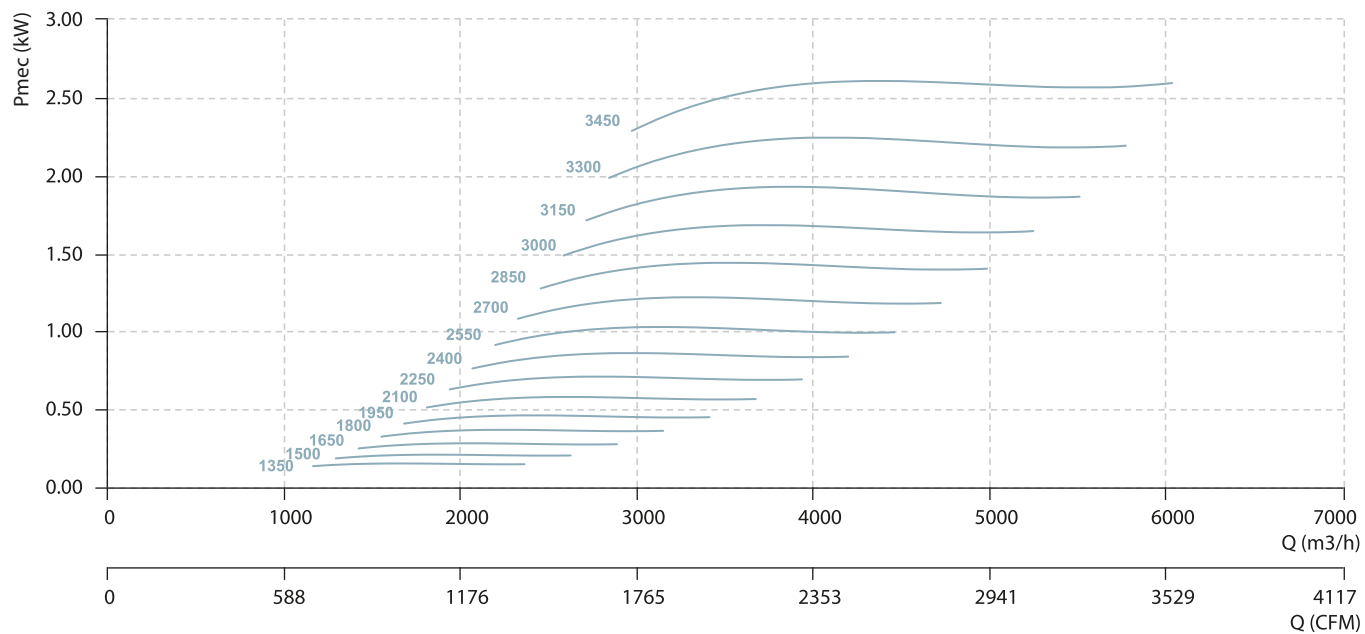


1 MTRL 310

AIR FLOW- PRESSURE / caudal - presión



AIR FLOW- MECHANICAL POWER / caudal - potencia mecánica



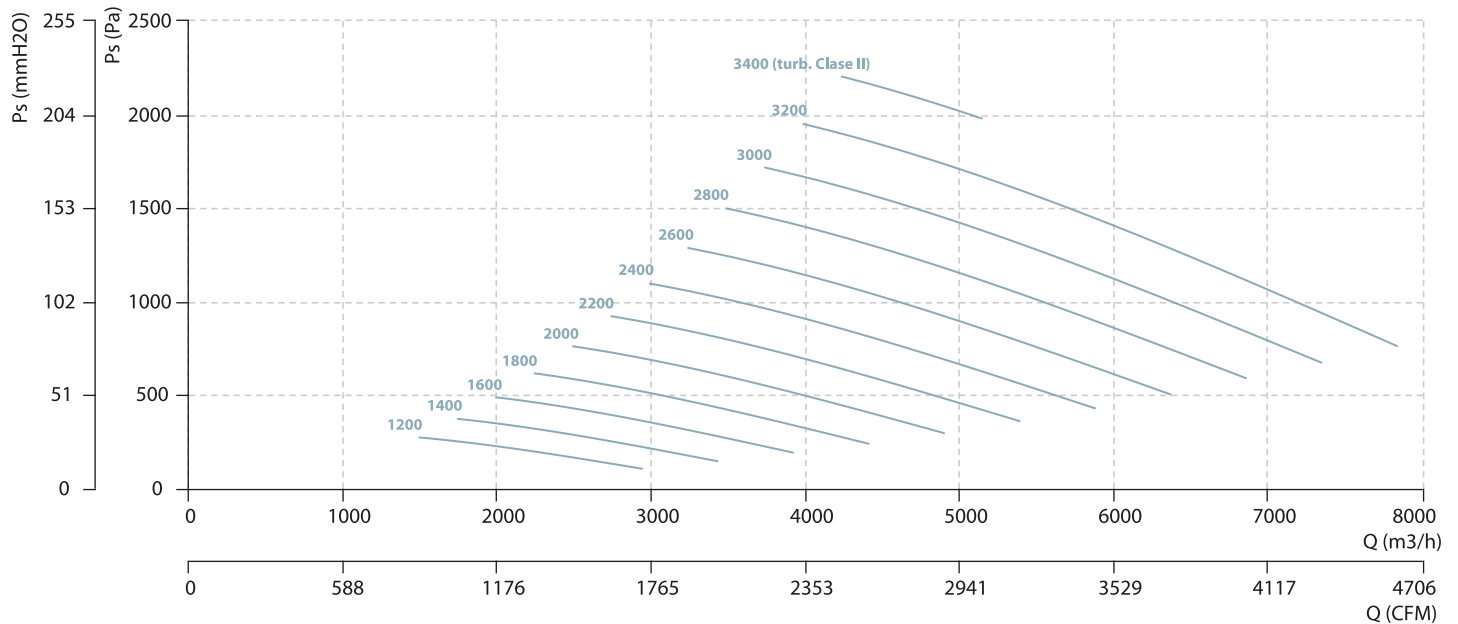
MEDIUM PRESSURE CENTRIFUGAL FANS



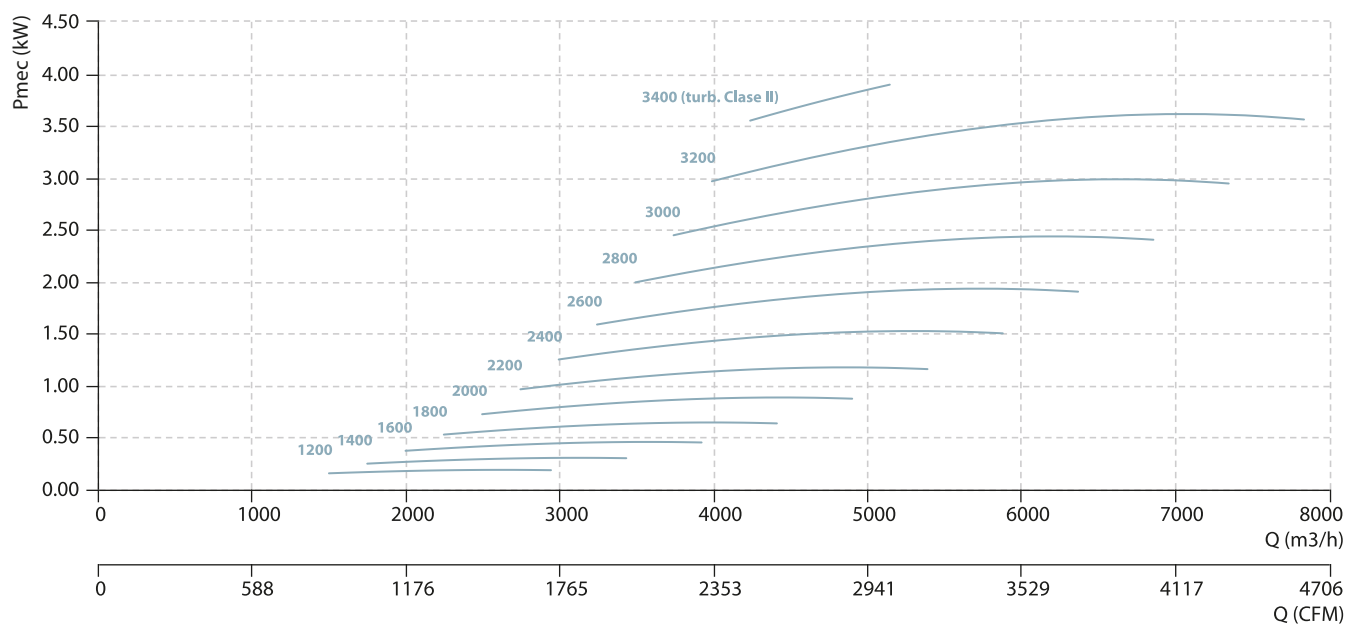
Ventiladores centrífugos de media presión

1 MTRL 350

AIR FLOW- PRESSURE / caudal - presión



AIR FLOW- MECHANICAL POWER / caudal - potencia mecánica



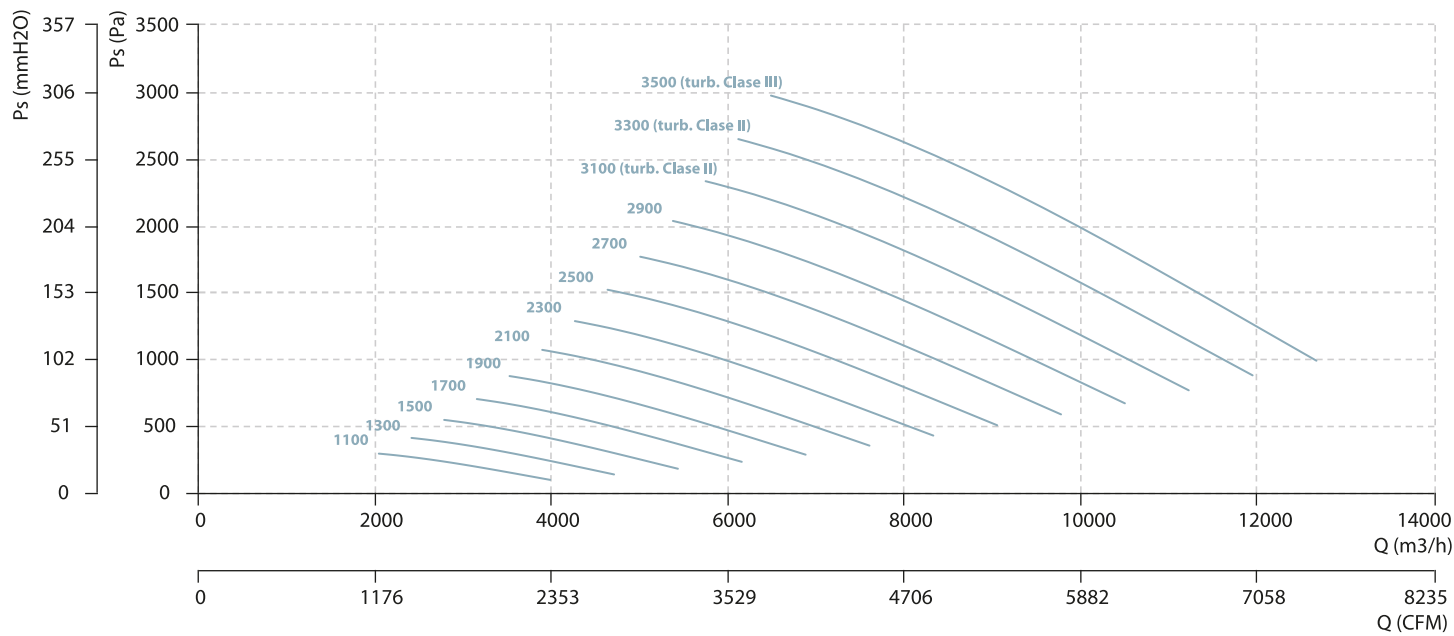
MEDIUM PRESSURE CENTRIFUGAL FANS

Ventiladores centrífugos de media presión

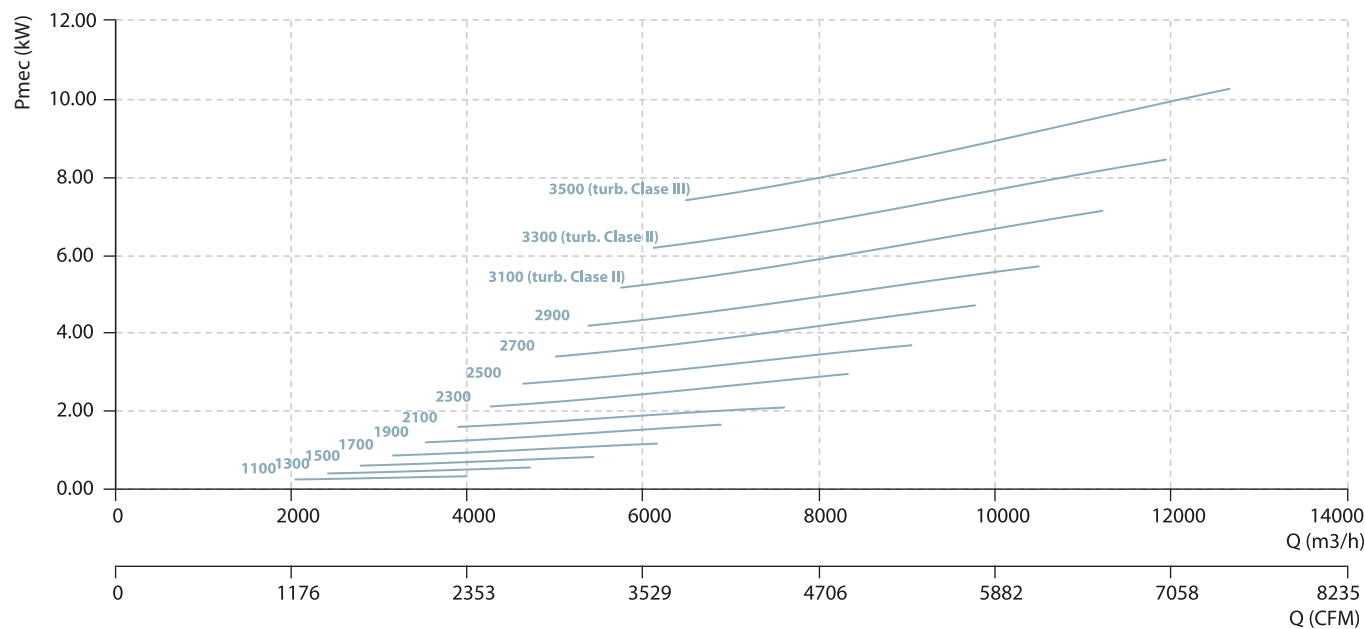


1 MTRL 400

AIR FLOW- PRESSURE / caudal - presión



AIR FLOW- MECHANICAL POWER / caudal - potencia mecánica



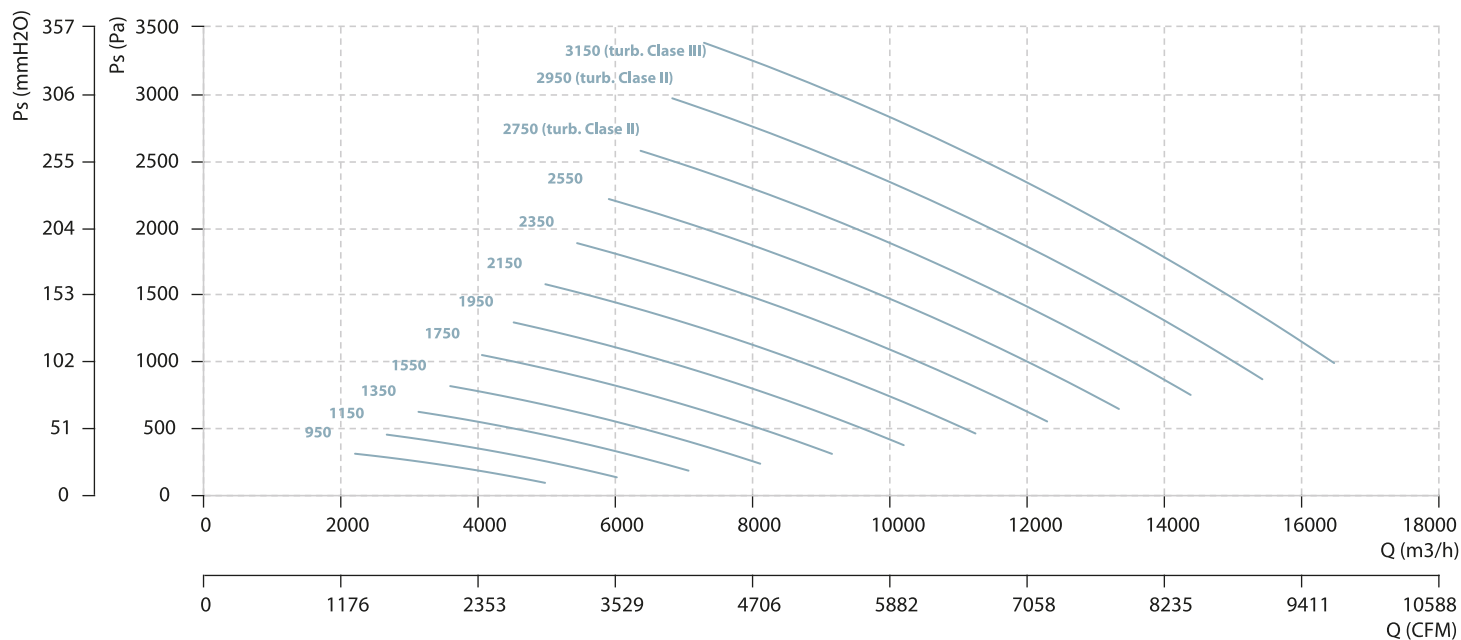
MEDIUM PRESSURE CENTRIFUGAL FANS



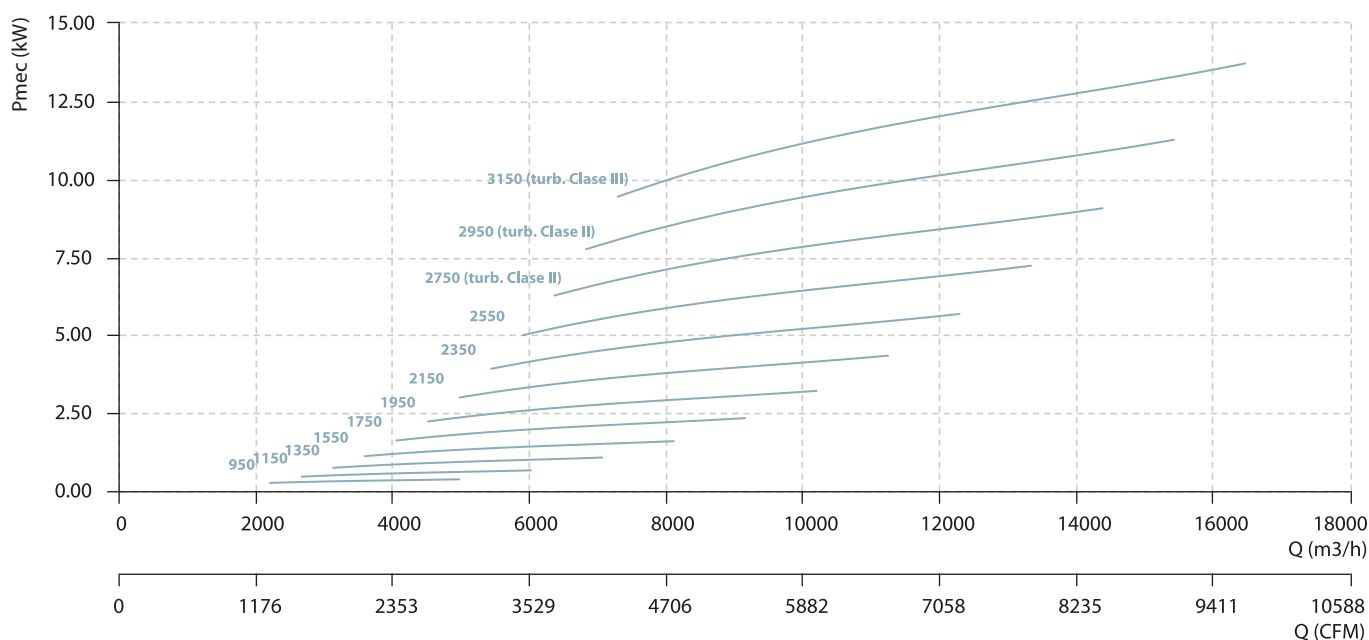
Ventiladores centrífugos de media presión

1 MTRL 450

AIR FLOW - PRESSURE / caudal - presión



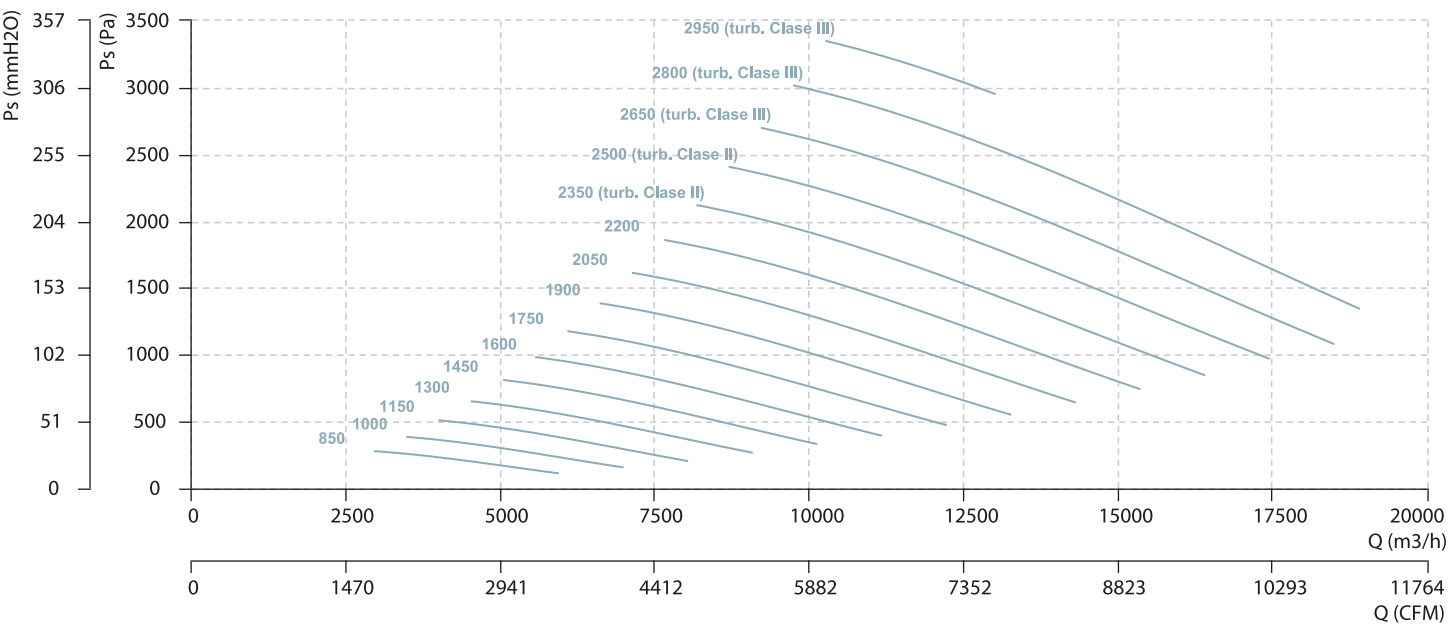
AIR FLOW - MECHANICAL POWER / caudal - potencia mecánica



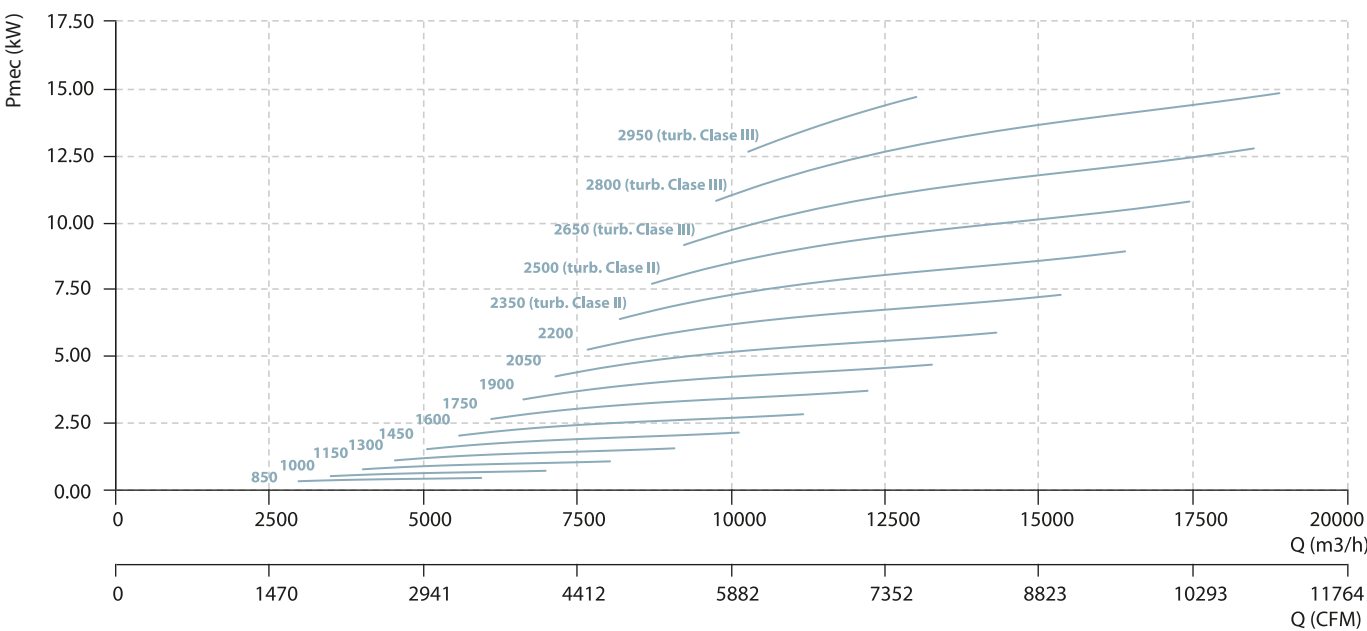


1 MTRL 500

AIR FLOW- PRESSURE / caudal - presión



AIR FLOW- MECHANICAL POWER / caudal - potencia mecánica



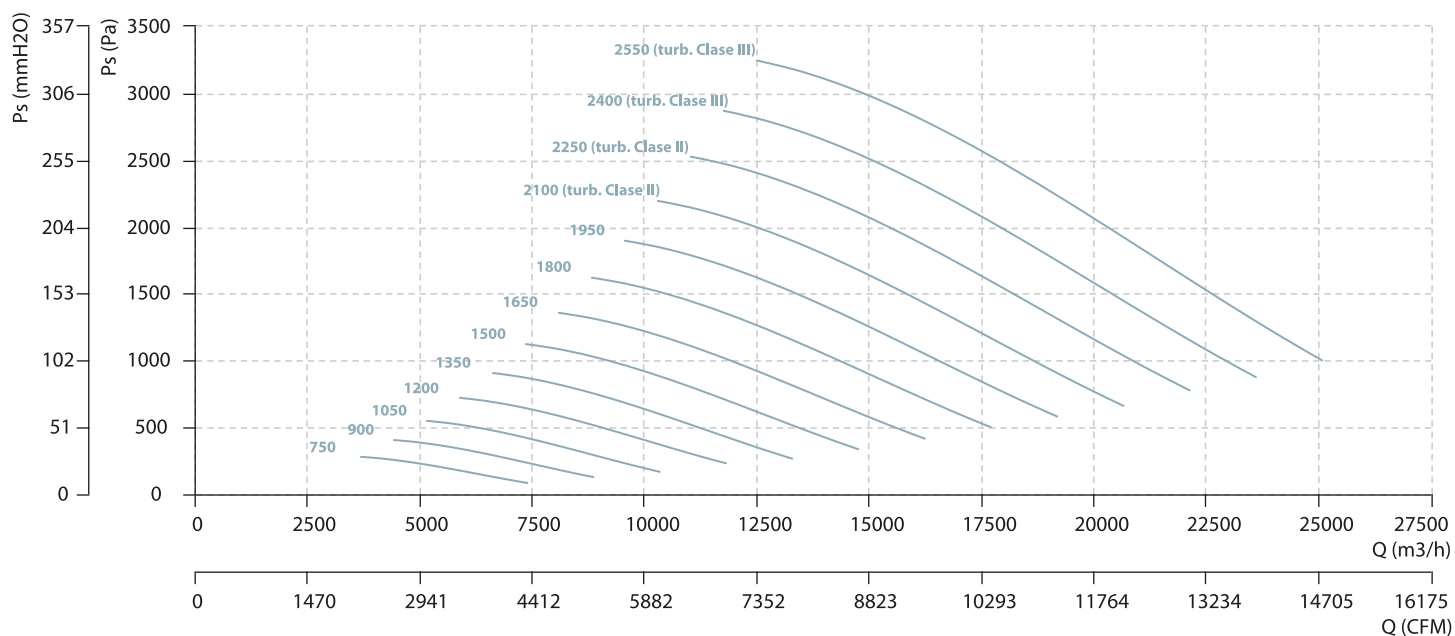
MEDIUM PRESSURE CENTRIFUGAL FANS



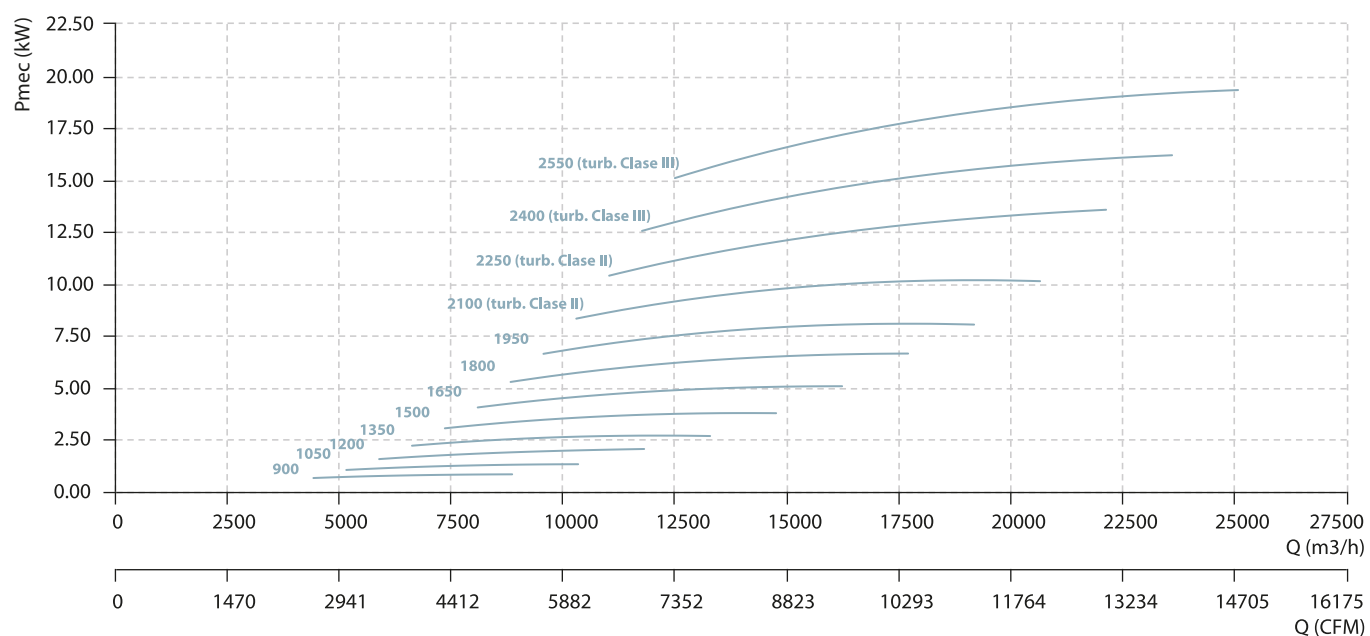
Ventiladores centrífugos de media presión

1 MTRL 560

AIR FLOW- PRESSURE / caudal - presión



AIR FLOW- MECHANICAL POWER / caudal - potencia mecánica



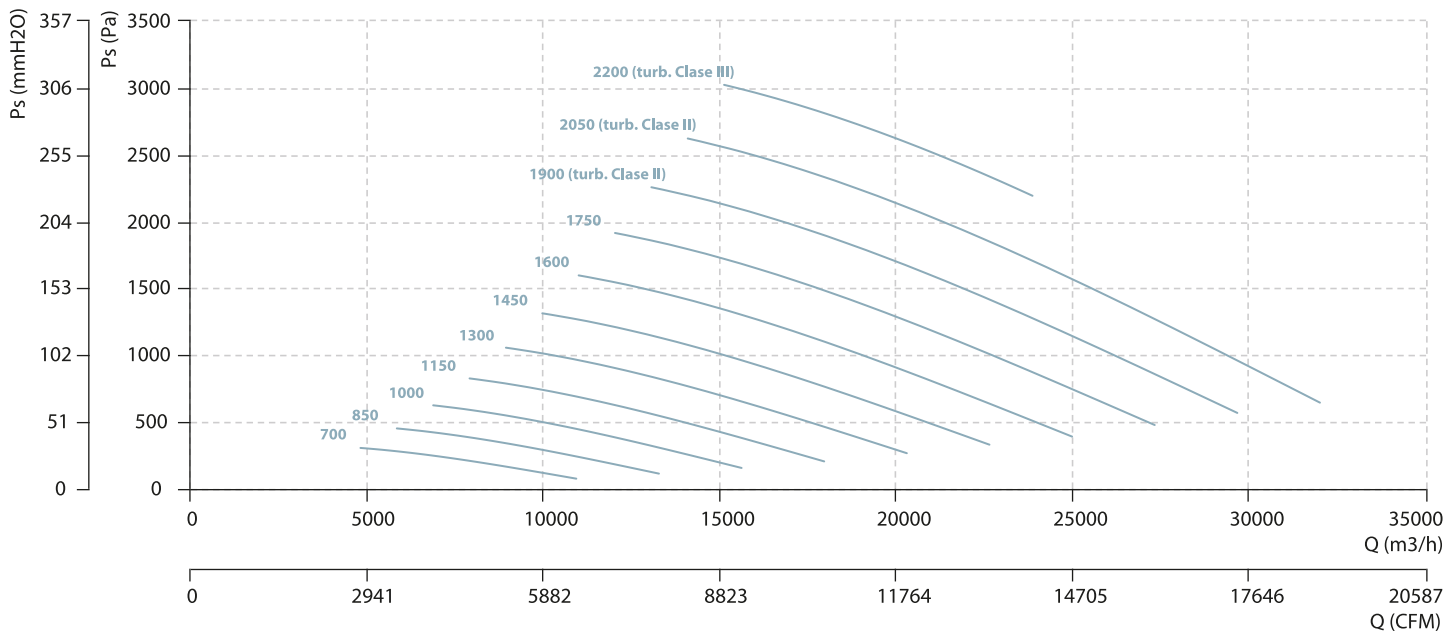
MEDIUM PRESSURE CENTRIFUGAL FANS

Ventiladores centrífugos de media presión

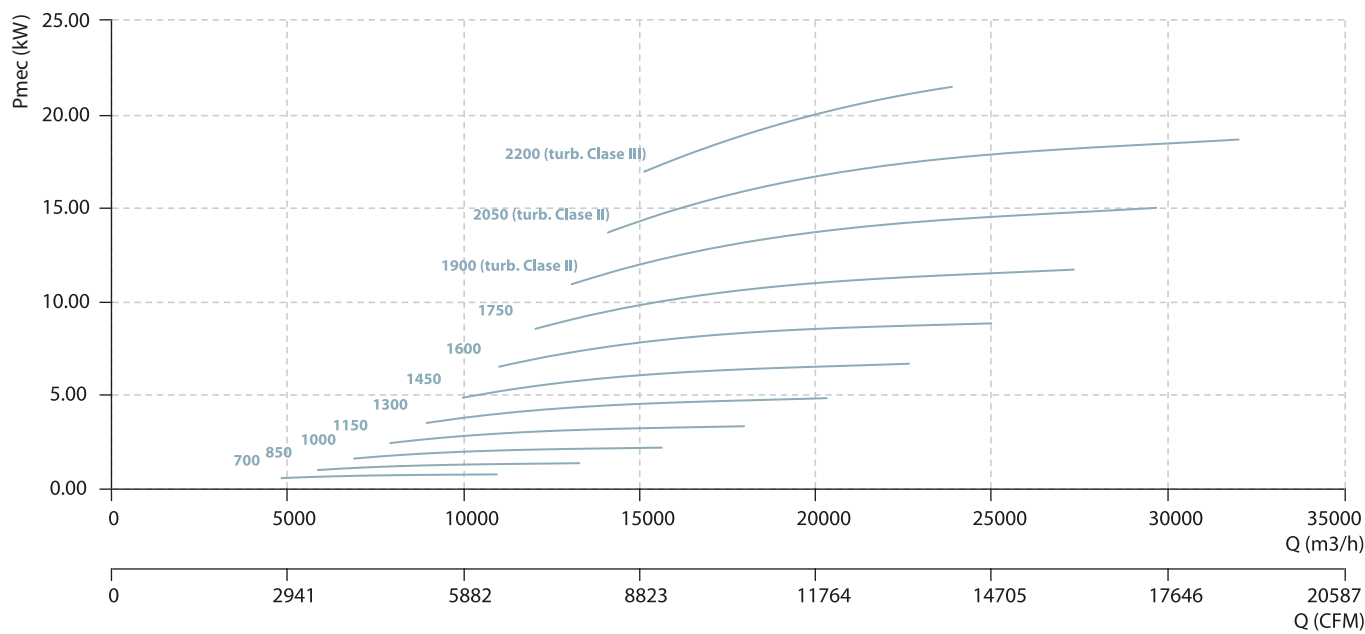


1 MTRL 630

AIR FLOW- PRESSURE / caudal - presión



AIR FLOW- MECHANICAL POWER / caudal - potencia mecánica



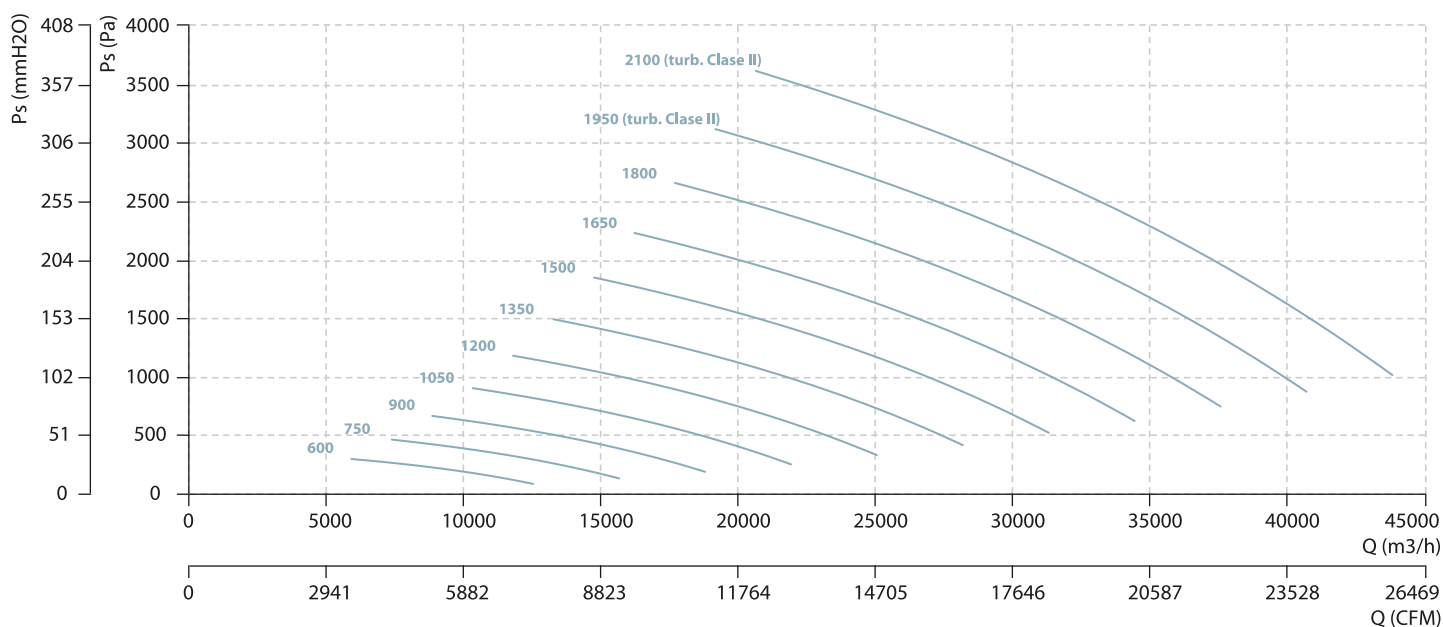
MEDIUM PRESSURE CENTRIFUGAL FANS



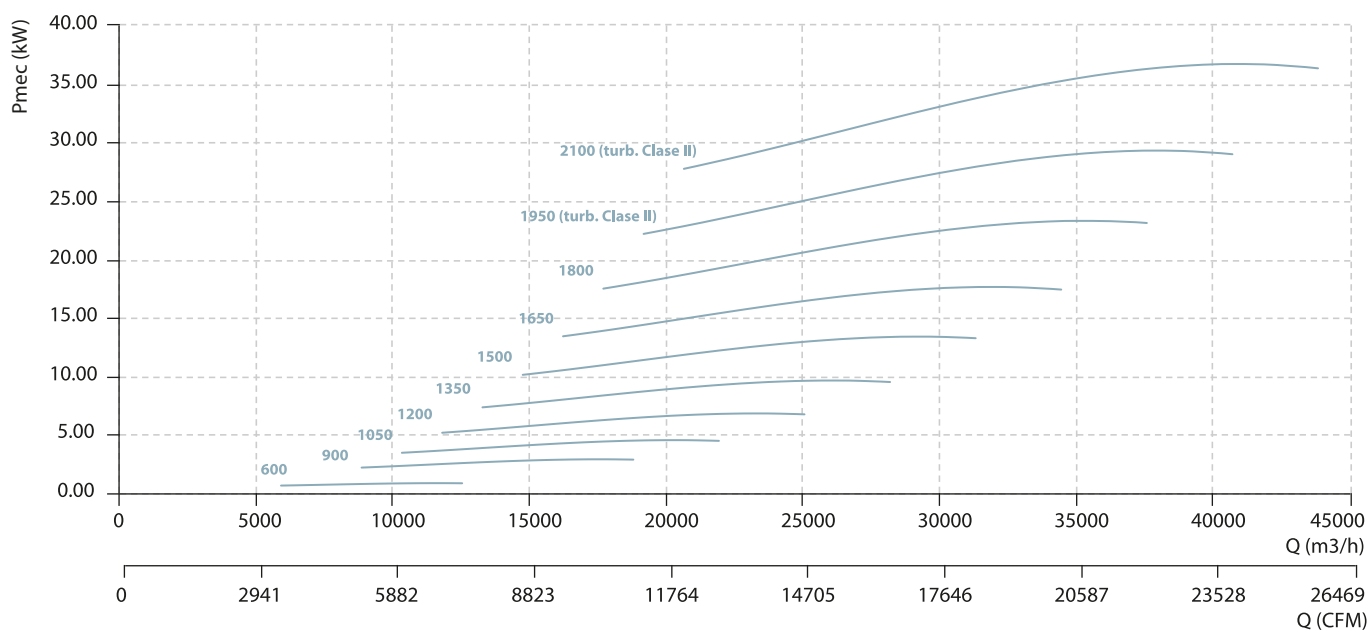
Ventiladores centrífugos de media presión

1 MTRL 710

AIR FLOW- PRESSURE / caudal - presión



AIR FLOW- MECHANICAL POWER / caudal - potencia mecánica



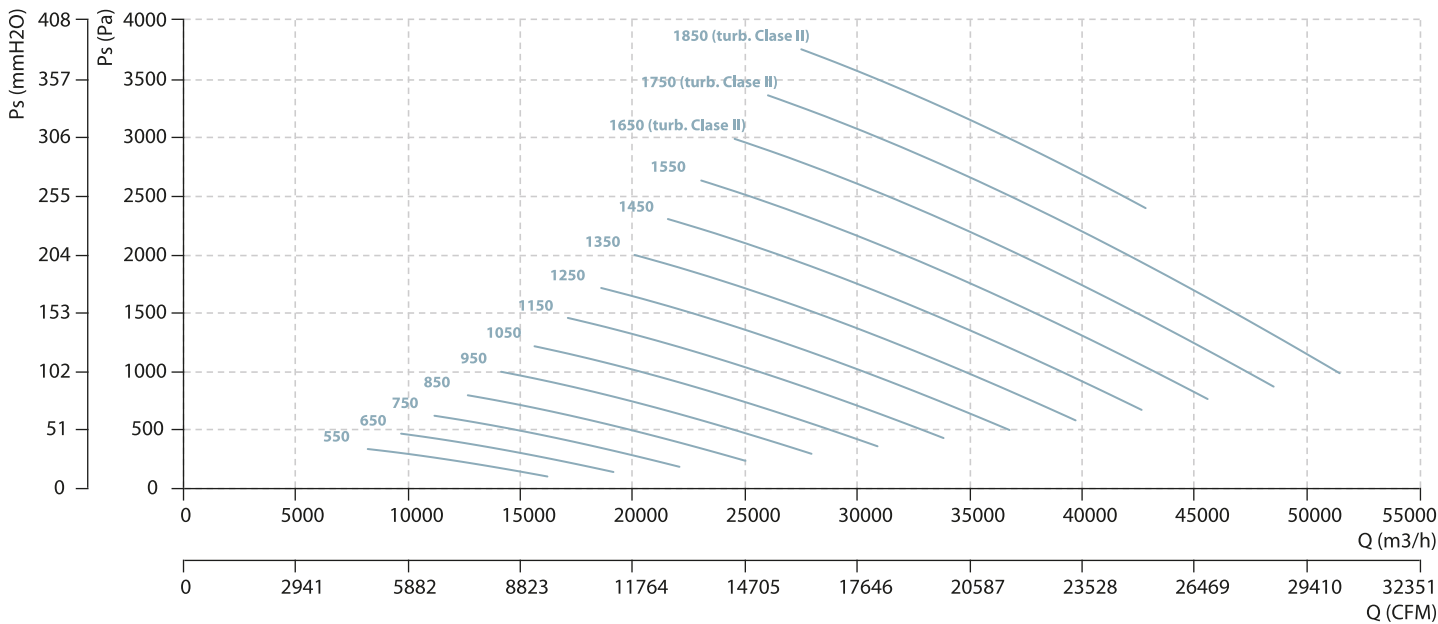
MEDIUM PRESSURE CENTRIFUGAL FANS

Ventiladores centrífugos de media presión

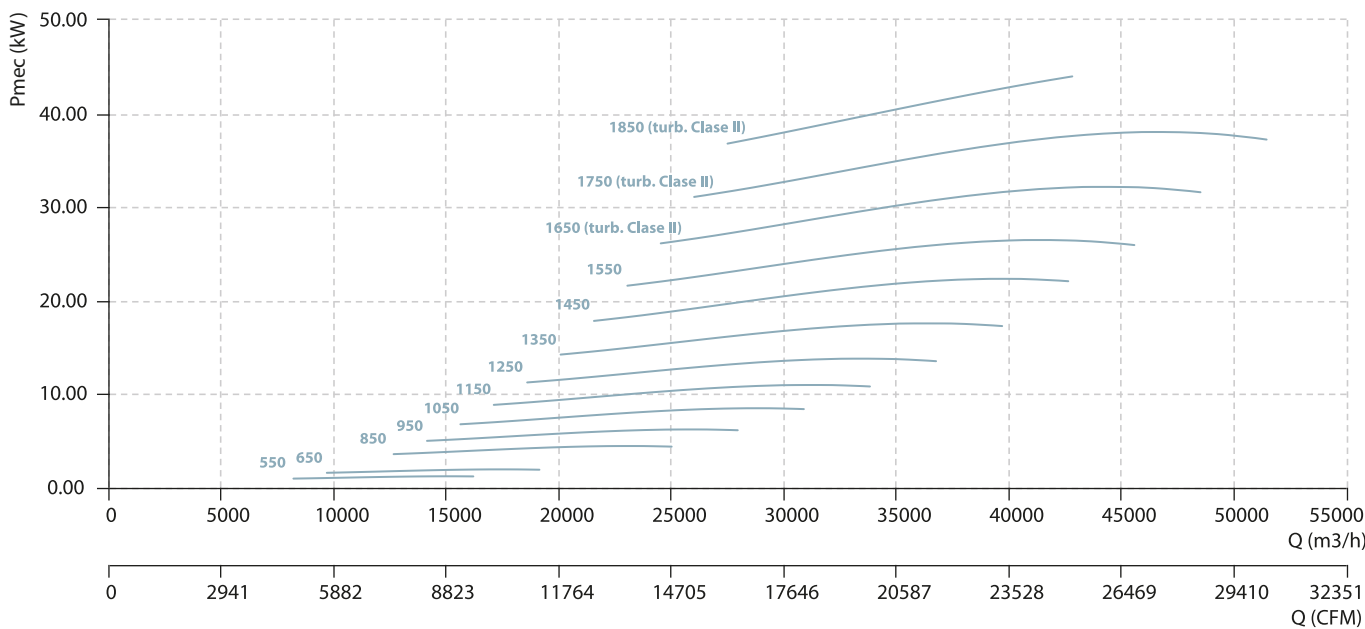


1 MTRL 800

AIR FLOW- PRESSURE / caudal - presión



AIR FLOW- MECHANICAL POWER / caudal - potencia mecánica



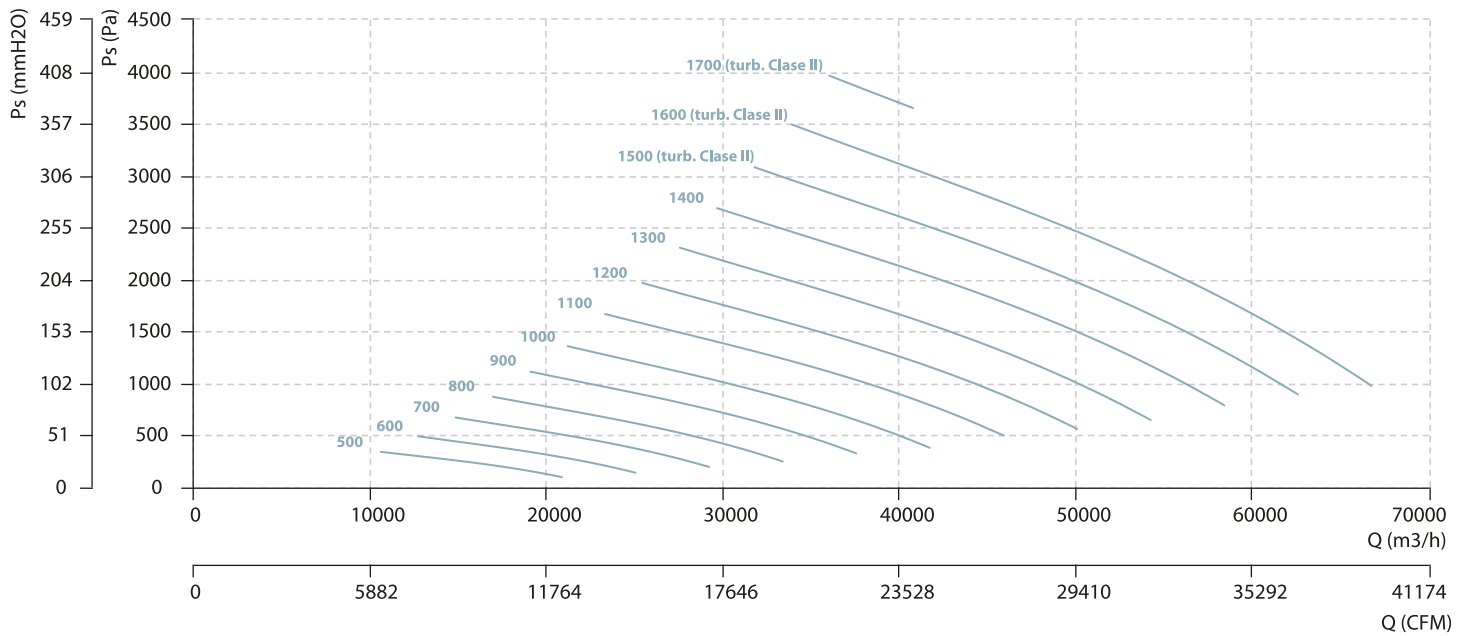
MEDIUM PRESSURE CENTRIFUGAL FANS



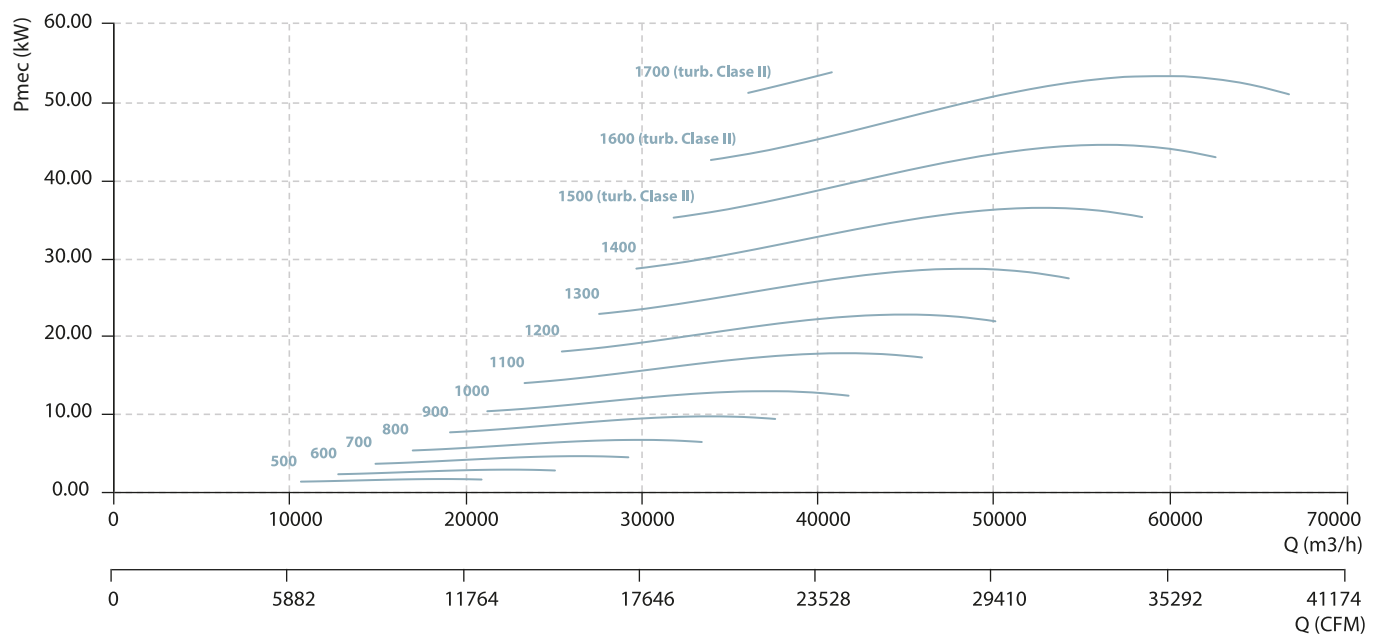
Ventiladores centrífugos de media presión

1 MTRL 900

AIR FLOW- PRESSURE / caudal - presión



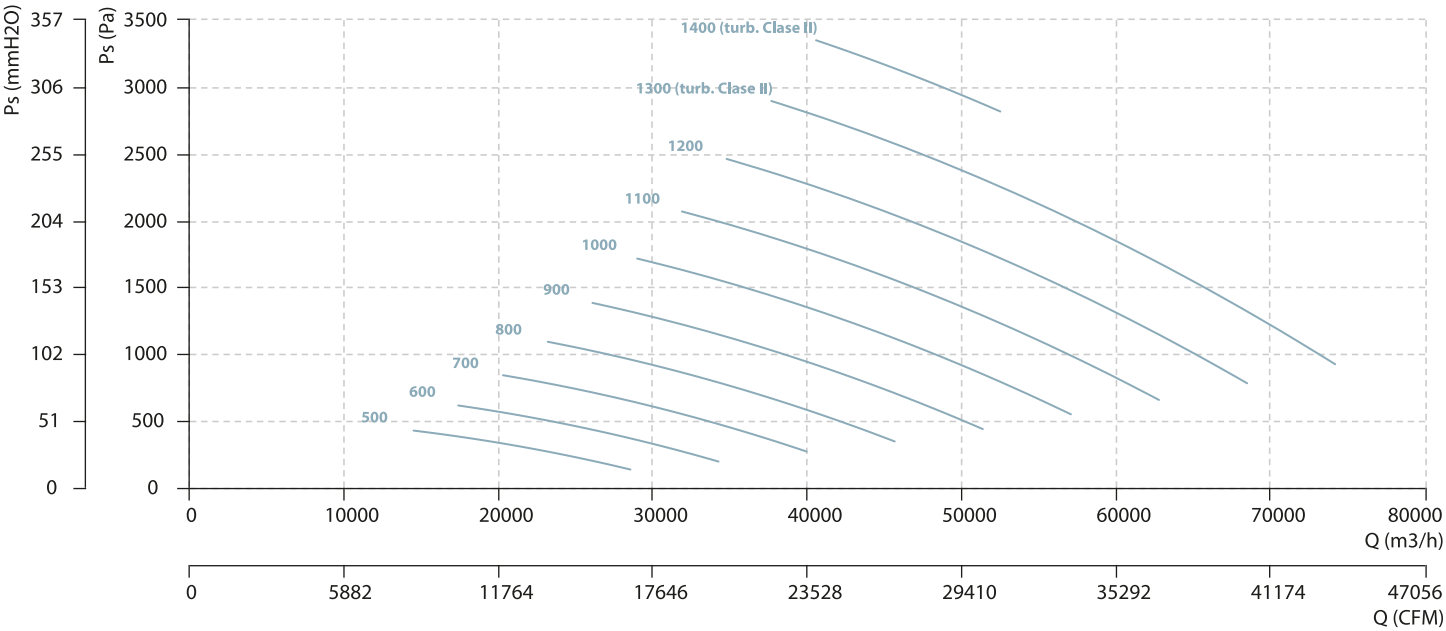
AIR FLOW- MECHANICAL POWER / caudal - potencia mecánica



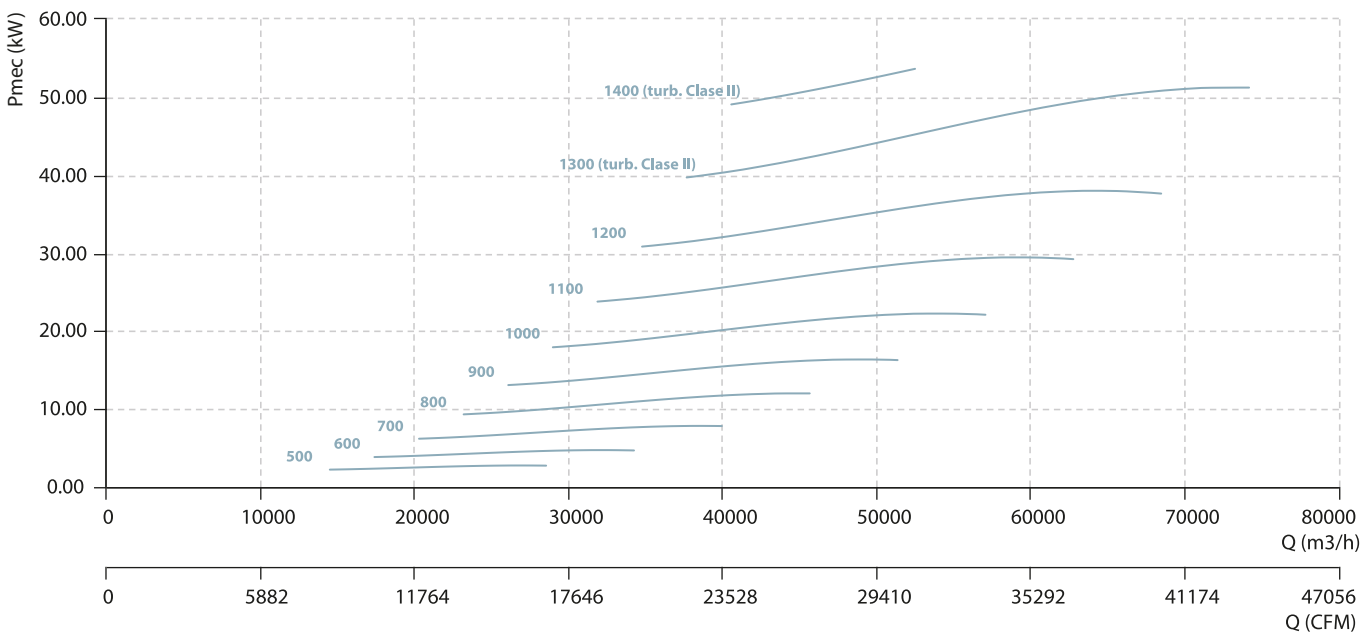


1 MTRL 1000

AIR FLOW- PRESSURE / caudal - presión



AIR FLOW- MECHANICAL POWER / caudal - potencia mecánica



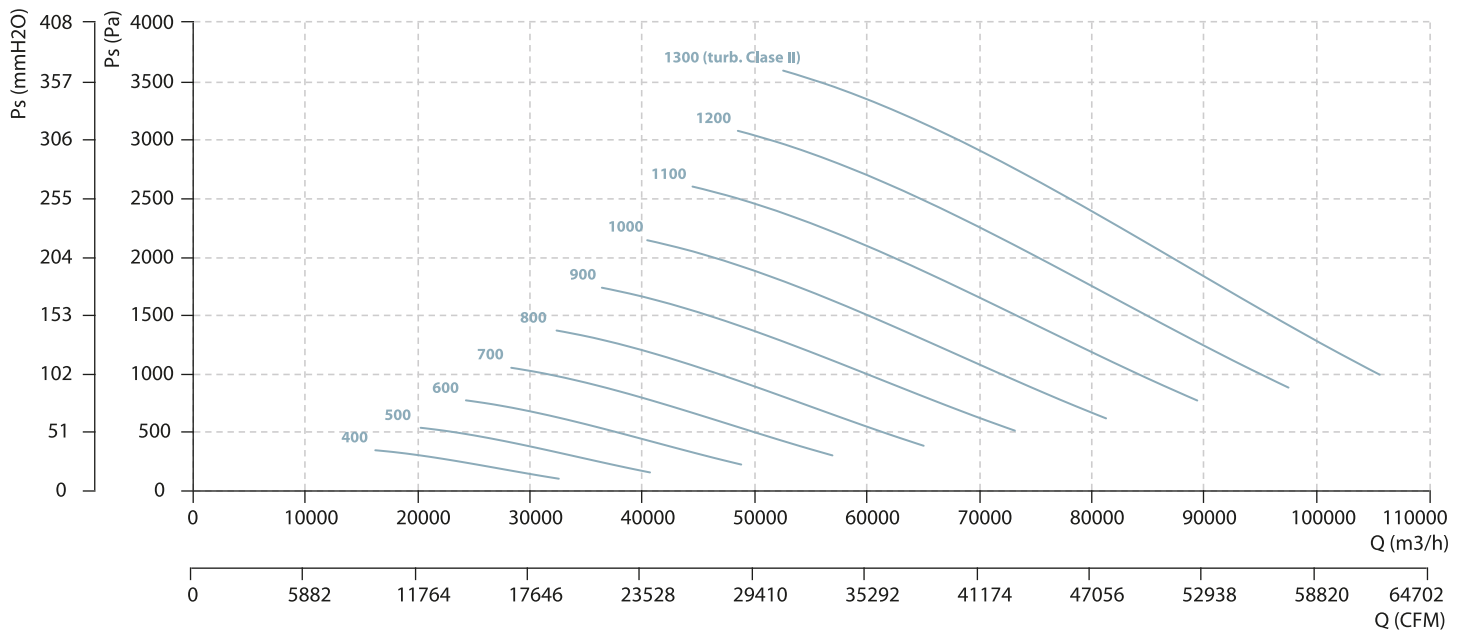
MEDIUM PRESSURE CENTRIFUGAL FANS



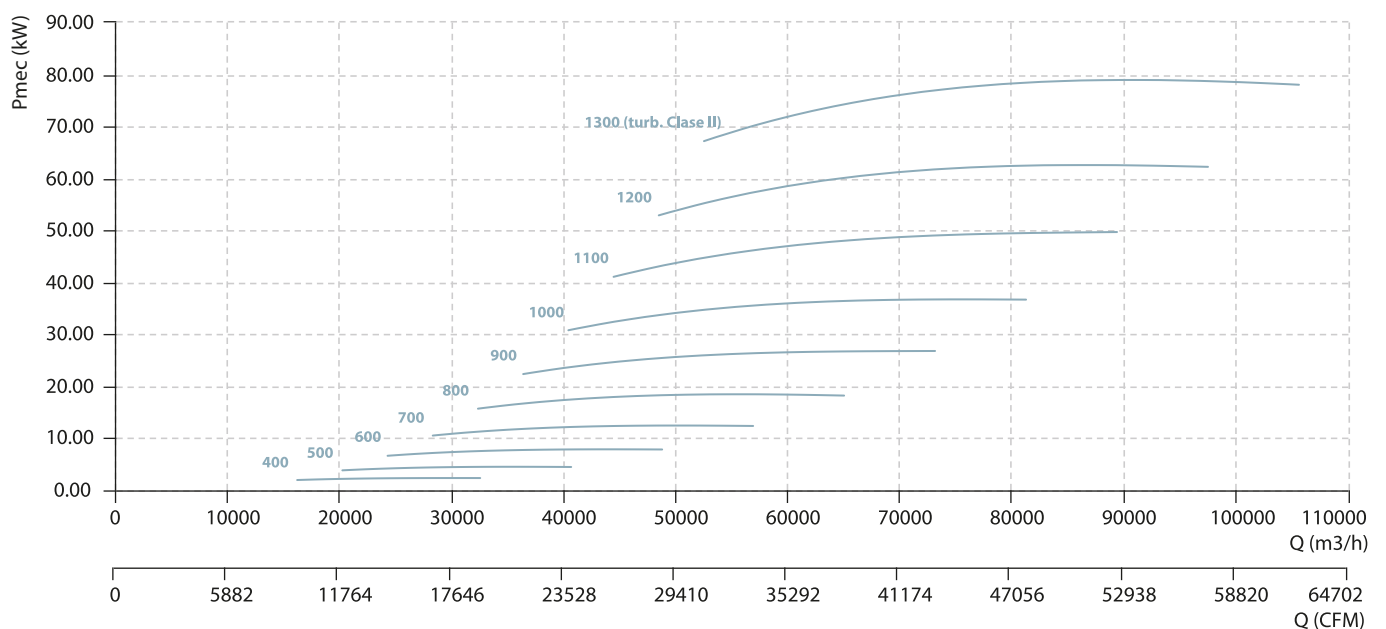
Ventiladores centrífugos de media presión

1 MTRL 1120

AIR FLOW- PRESSURE / caudal - presión



AIR FLOW- MECHANICAL POWER / caudal - potencia mecánica



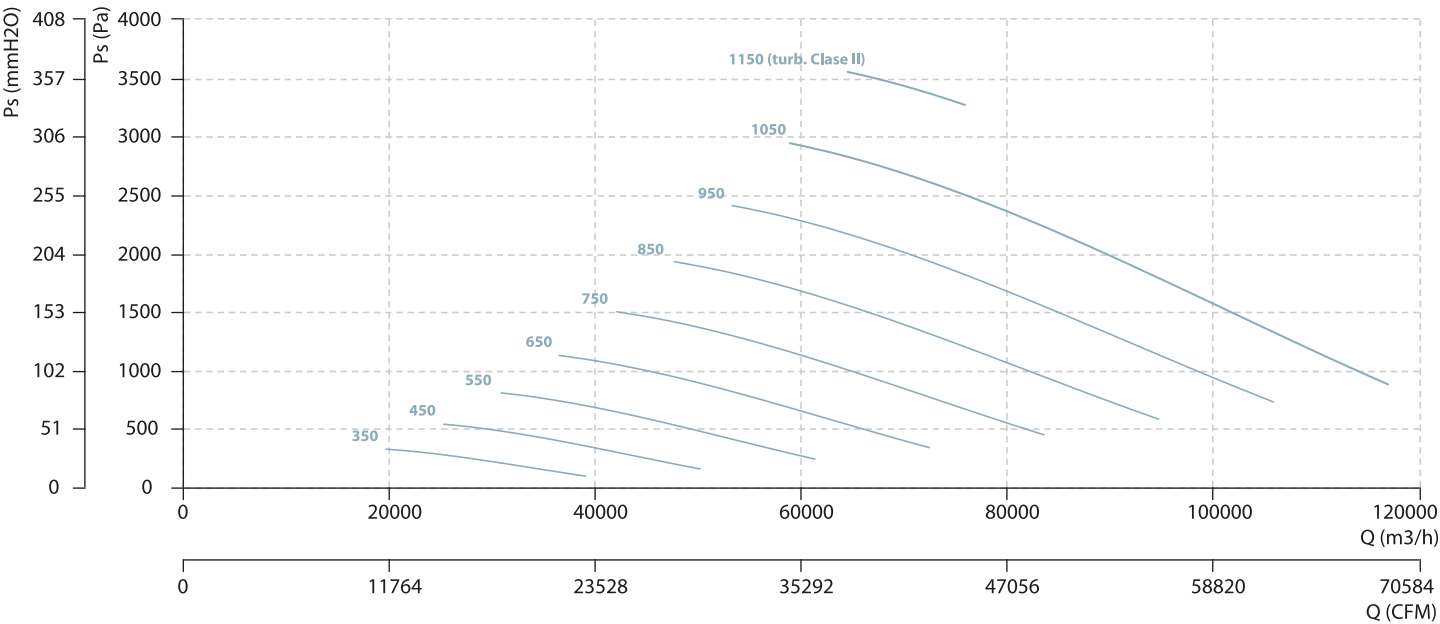
MEDIUM PRESSURE CENTRIFUGAL FANS

Ventiladores centrífugos de media presión

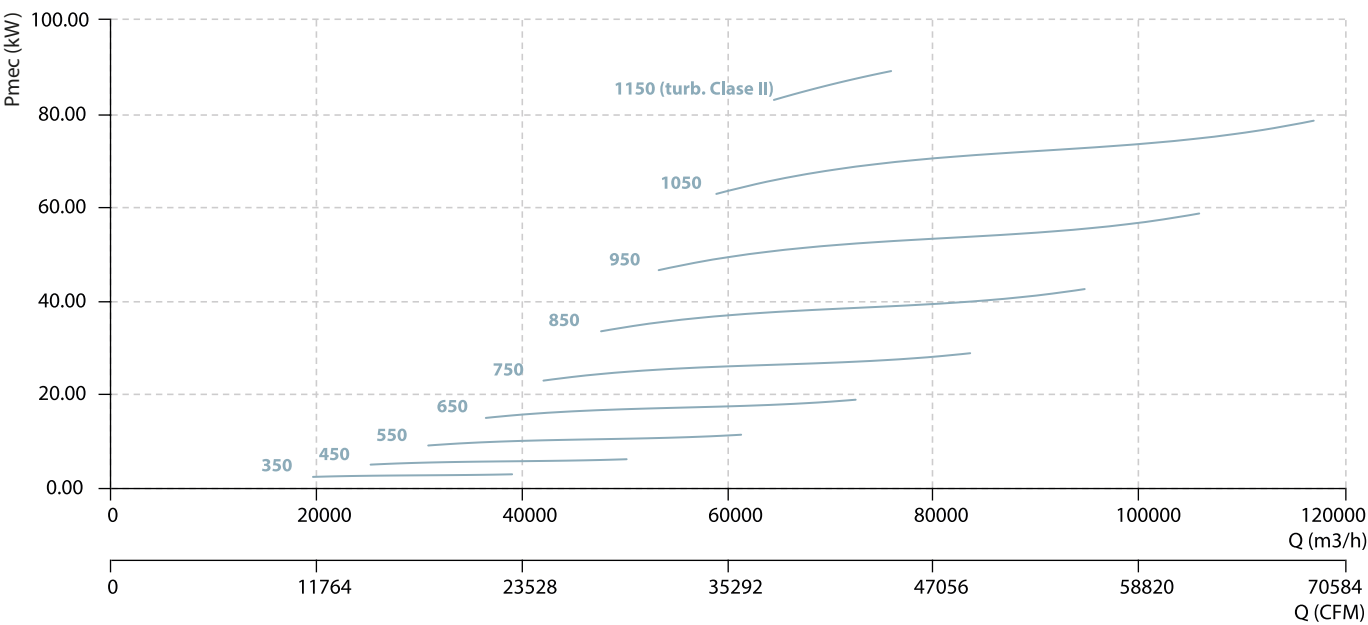


1 MTRL 1250

AIR FLOW- PRESSURE / caudal - presión



AIR FLOW- MECHANICAL POWER / caudal - potencia mecánica



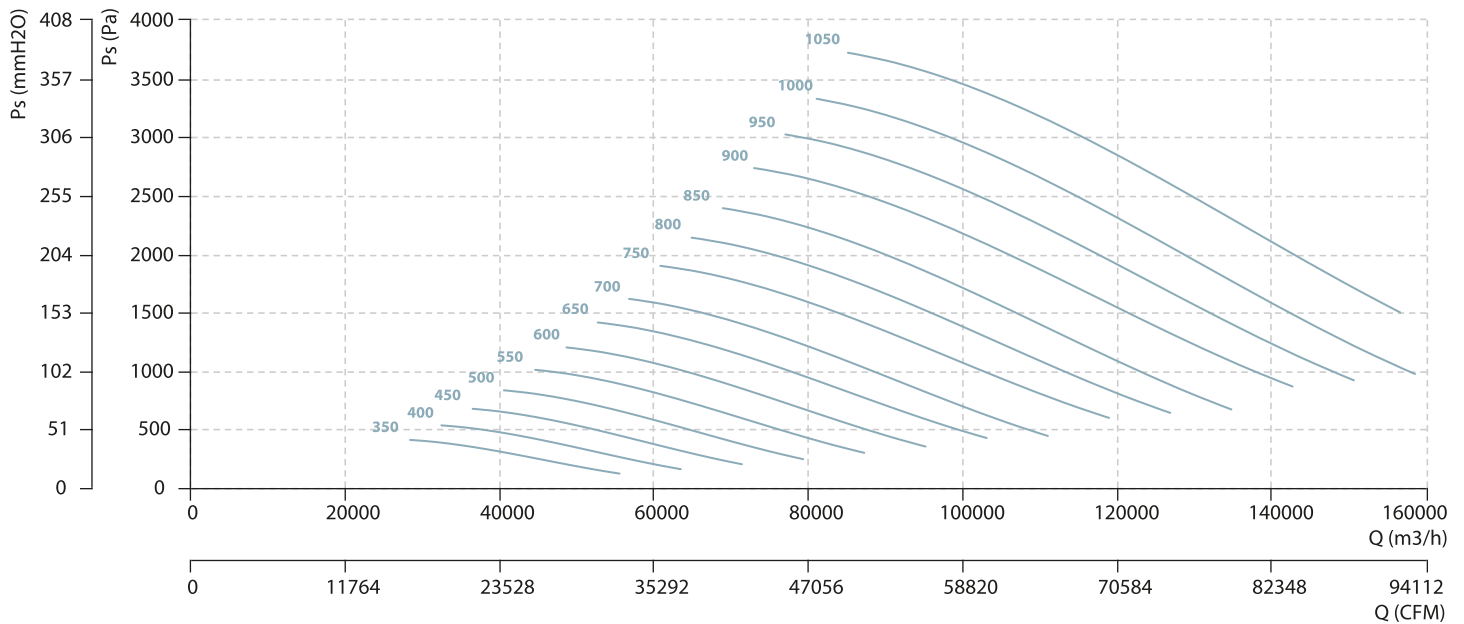
MEDIUM PRESSURE CENTRIFUGAL FANS



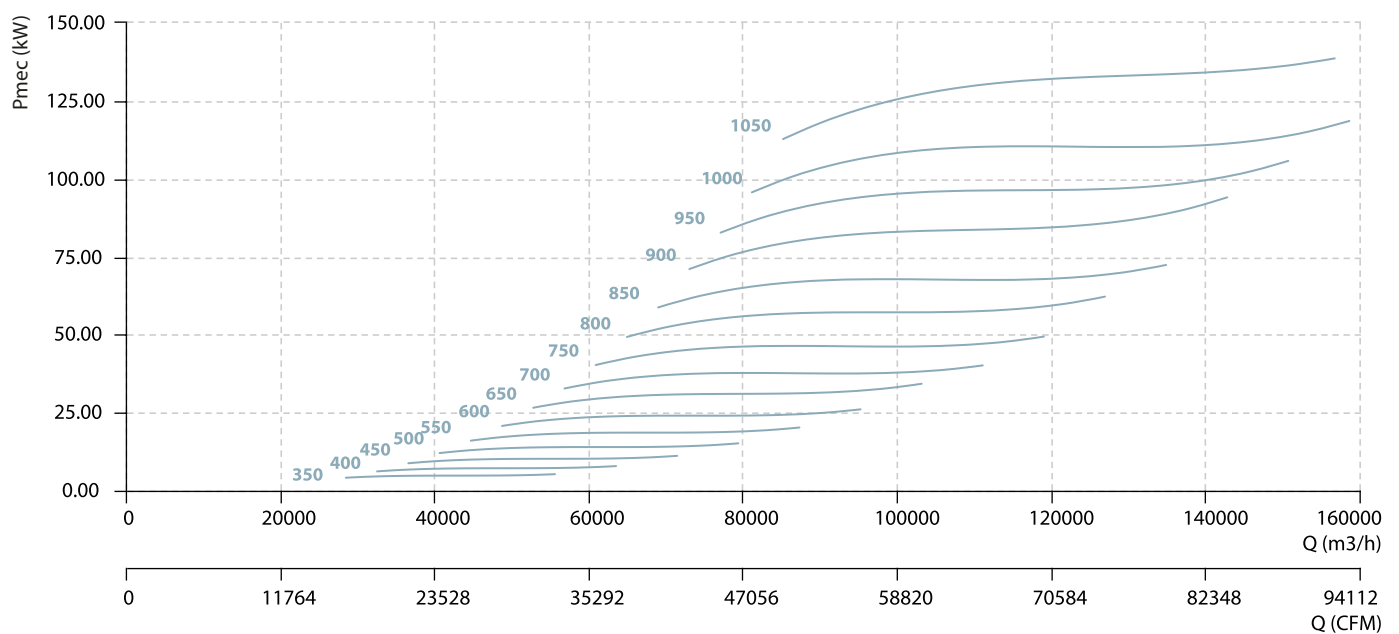
Ventiladores centrífugos de media presión

1 MTRL 1400

AIR FLOW- PRESSURE / caudal - presión



AIR FLOW- MECHANICAL POWER / caudal - potencia mecánica



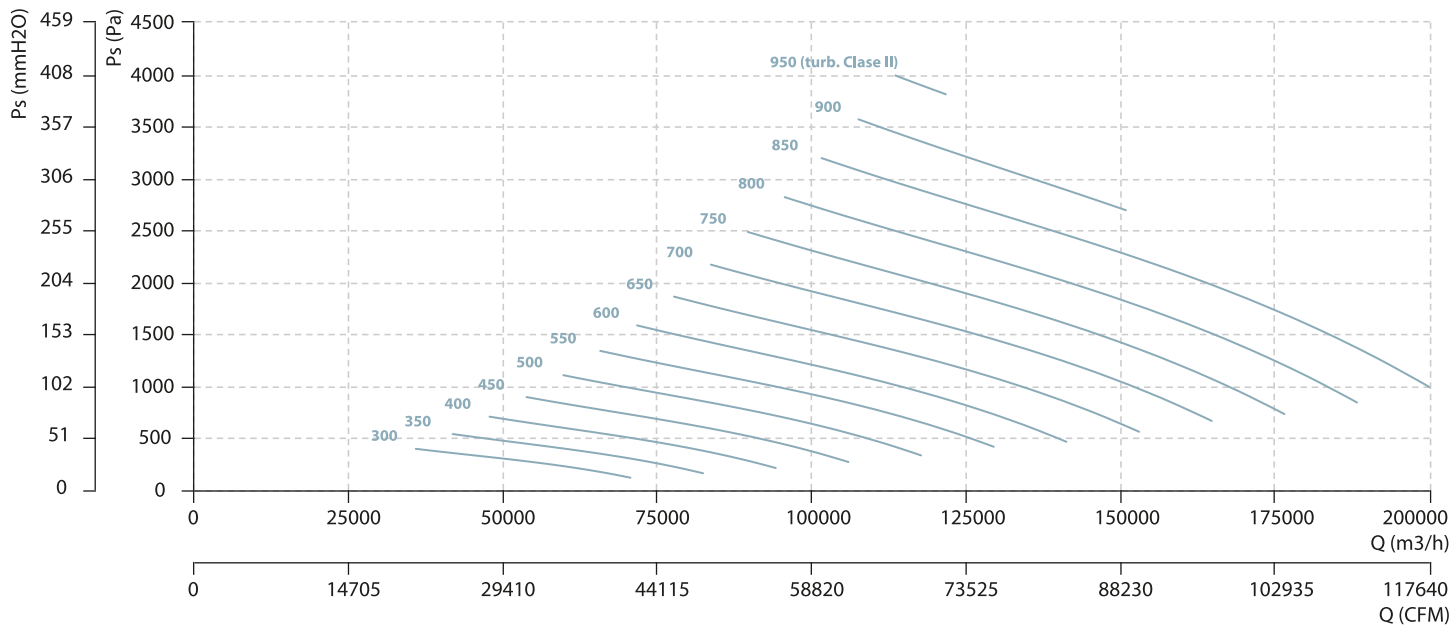
MEDIUM PRESSURE CENTRIFUGAL FANS

Ventiladores centrífugos de media presión

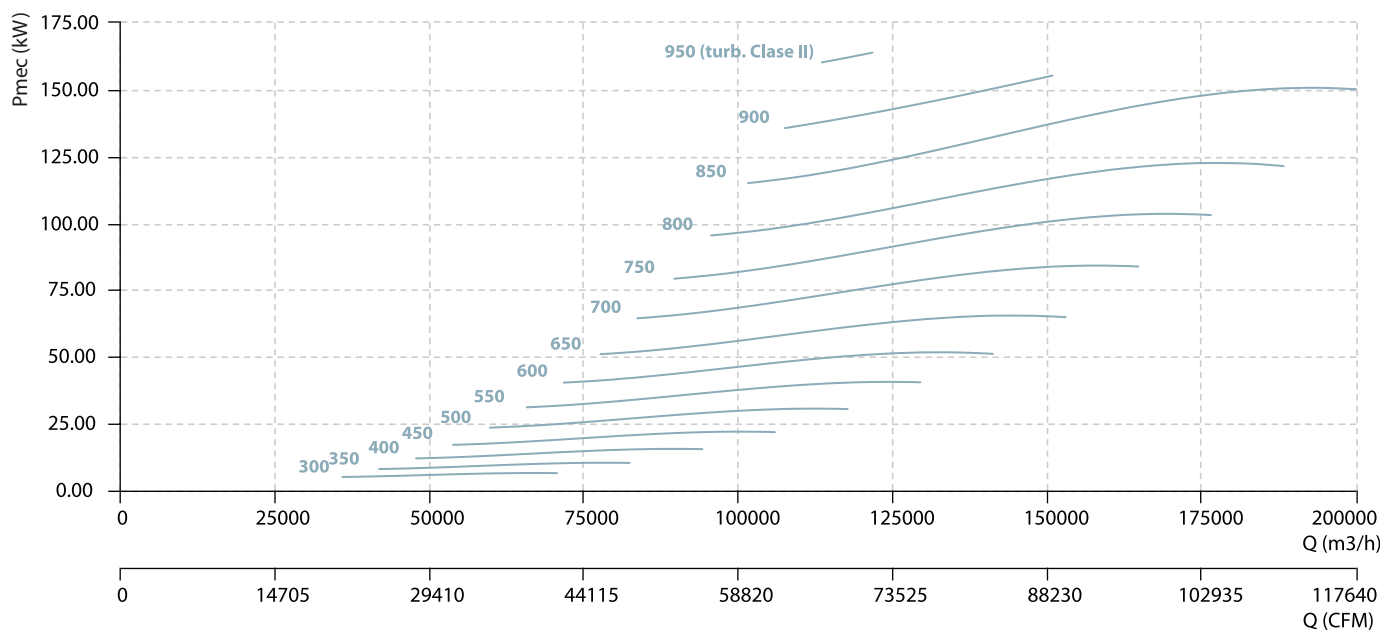


1 MTRL 1600

AIR FLOW- PRESSURE / caudal - presión



AIR FLOW- MECHANICAL POWER / caudal - potencia mecánica



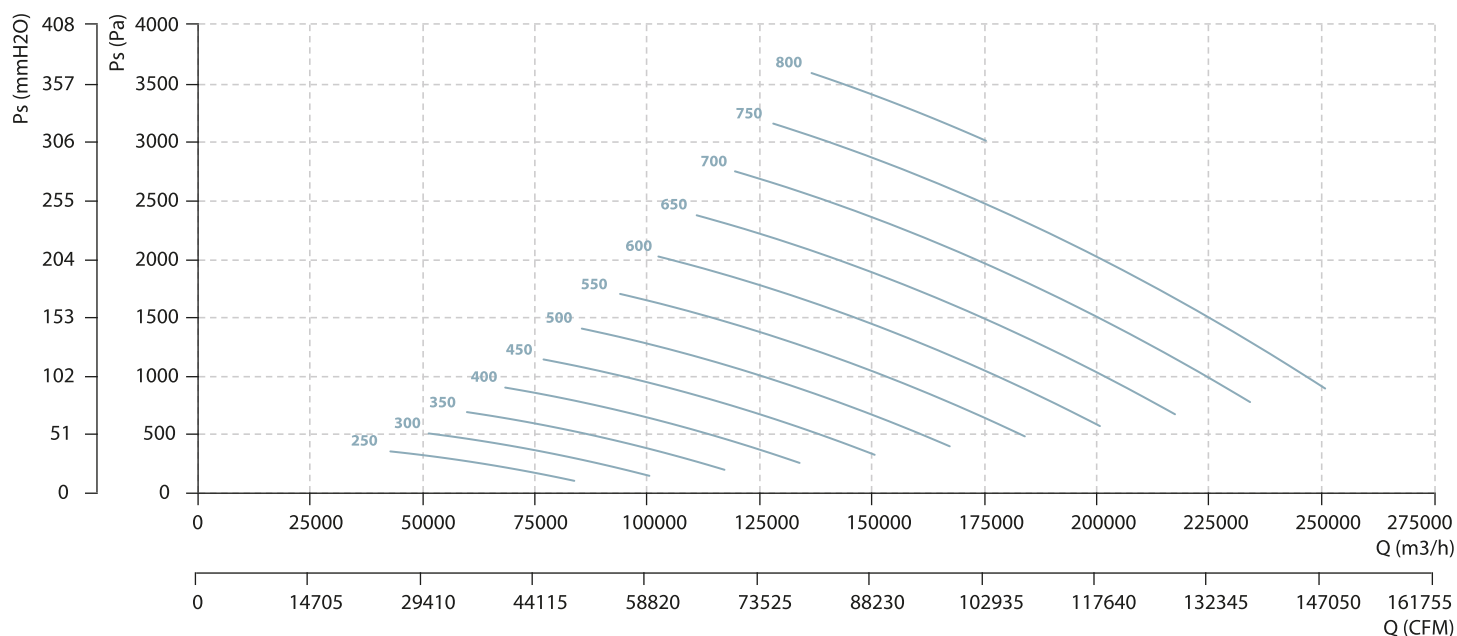
MEDIUM PRESSURE CENTRIFUGAL FANS



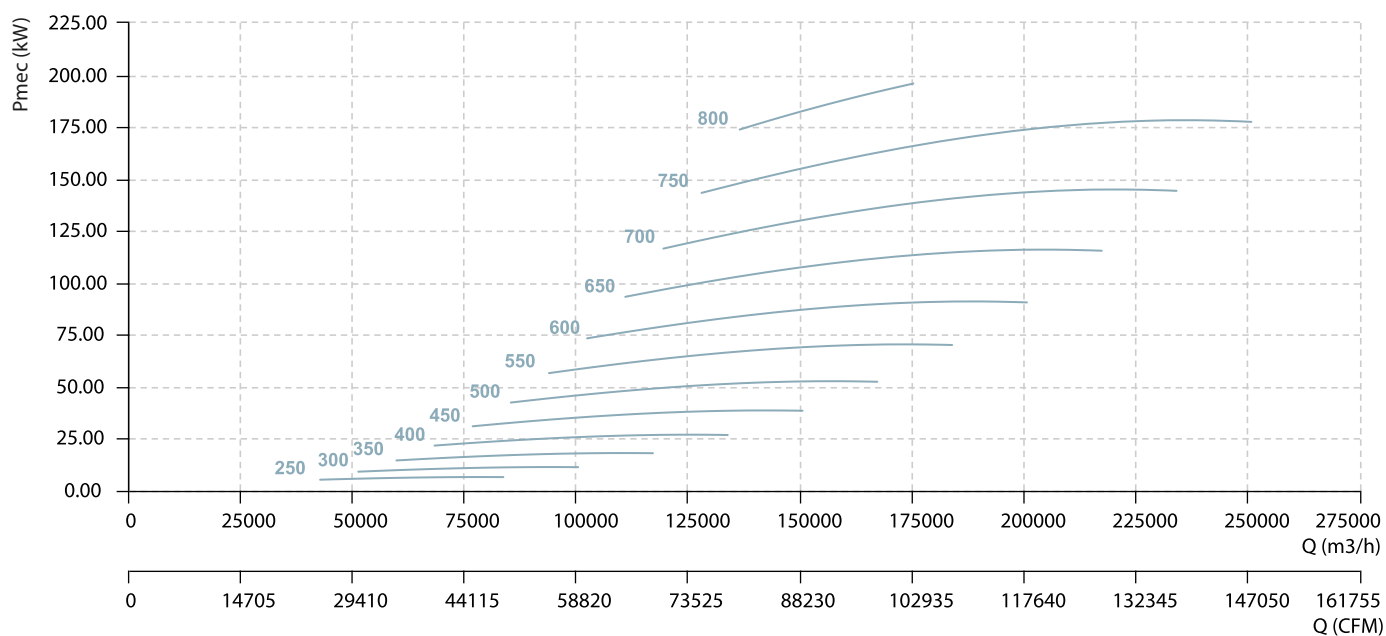
Ventiladores centrífugos de media presión

1 MTRL 1800

AIR FLOW- PRESSURE / caudal - presión



AIR FLOW- MECHANICAL POWER / caudal - potencia mecánica



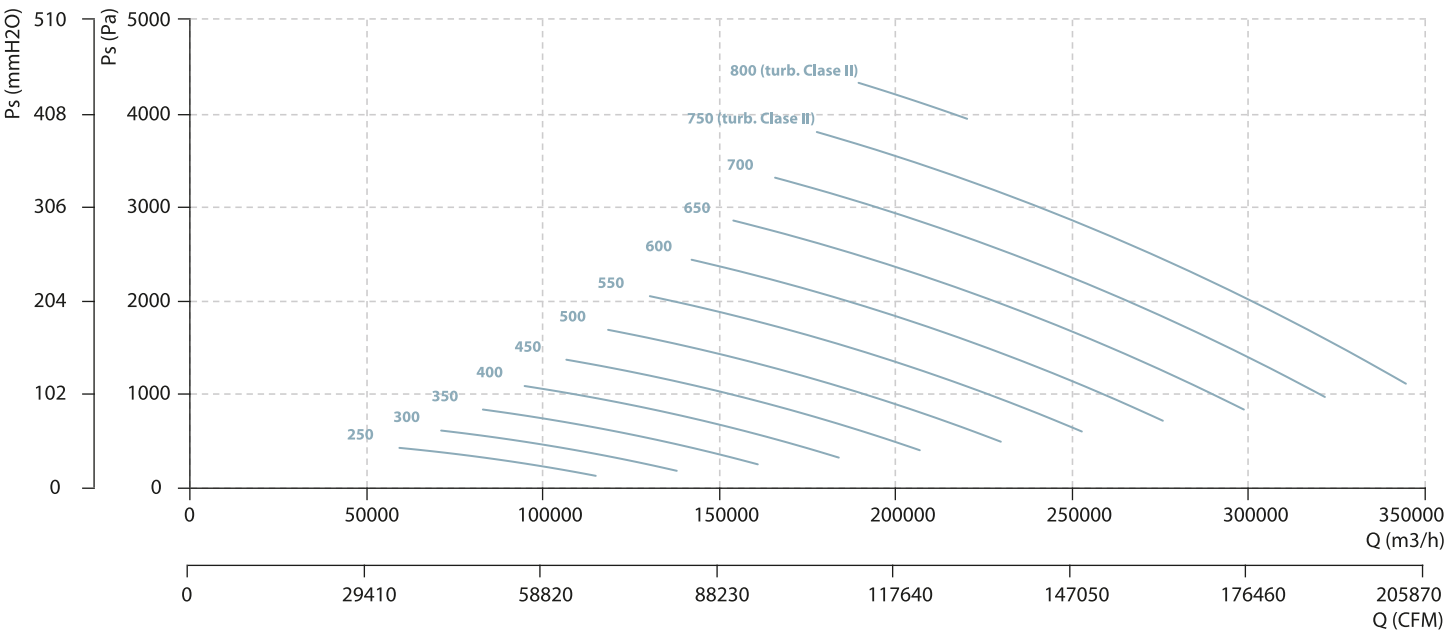
MEDIUM PRESSURE CENTRIFUGAL FANS

Ventiladores centrífugos de media presión

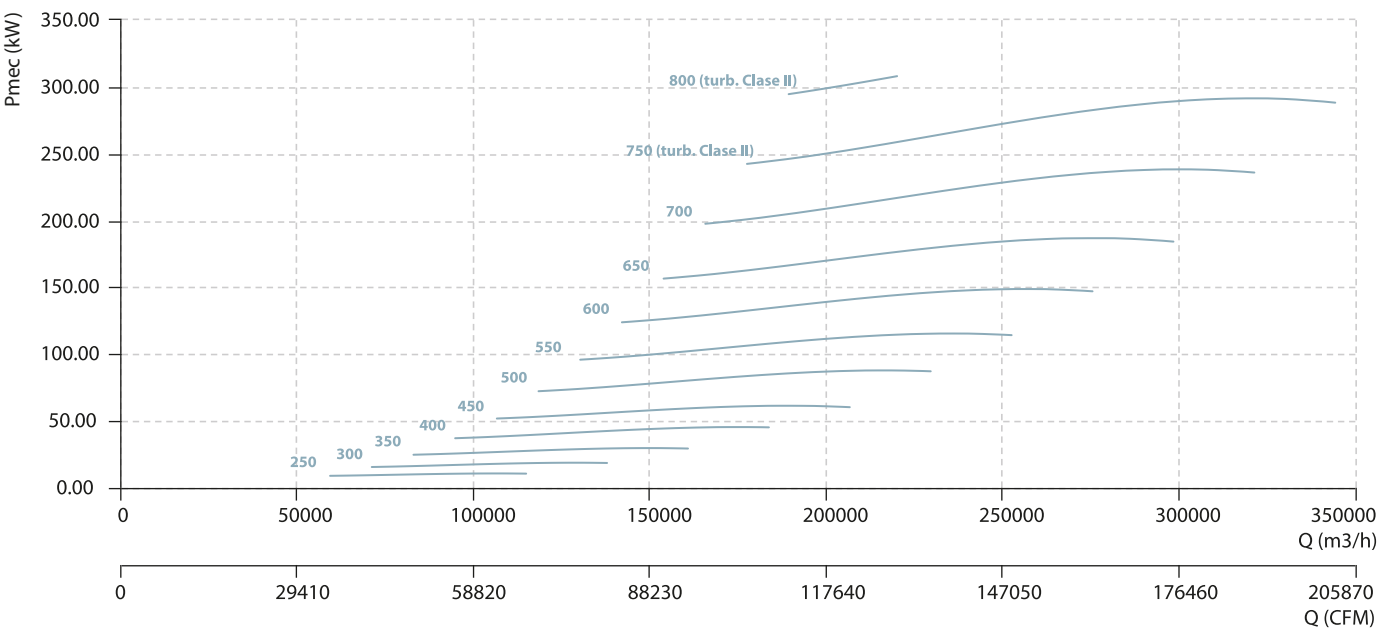


1 MTRL 2000

AIR FLOW- PRESSURE / caudal - presión



AIR FLOW- MECHANICAL POWER / caudal - potencia mecánica





SOUND POWER / potencia sonora

		SOUND POWER Lw dB (A)								
		63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Total
MTRL 250 (2600 RPM)	Inlet / Aspiración	52	64	70	74	75	71	64	61	80
MTRL 280 (2500 RPM)	Inlet / Aspiración	55	67	73	77	78	74	67	64	82
MTRL 310 (2400 RPM)	Inlet / Aspiración	54	66	73	77	78	73	67	64	82
MTRL 350 (2350 RPM)	Inlet / Aspiración	58	70	77	81	82	77	71	68	86
MTRL 400 (2300 RPM)	Inlet / Aspiración	61	73	80	84	85	80	74	71	89
MTRL 450 (2150 RPM)	Inlet / Aspiración	65	77	84	88	89	84	78	75	93
MTRL 500 (2050 RPM)	Inlet / Aspiración	66	78	85	89	90	85	79	76	94
MTRL 560 (1900 RPM)	Inlet / Aspiración	69	90	87	91	92	88	81	78	96
MTRL 630 (1800 RPM)	Inlet / Aspiración	69	81	88	92	93	88	82	79	97
MTRL 710 (1750 RPM)	Inlet / Aspiración	72	84	90	94	95	91	84	81	100
MTRL 800 (1650 RPM)	Inlet / Aspiración	74	86	92	96	97	93	86	83	102
MTRL 900 (1600 RPM)	Inlet / Aspiración	76	88	95	99	100	95	89	86	104
MTRL 1000 (500 RPM)	Inlet / Aspiración	54	66	72	76	77	73	66	63	81
MTRL 1120 (500 RPM)	Inlet / Aspiración	55	67	74	78	79	74	68	65	83
MTRL 1250 (550 RPM)	Inlet / Aspiración	60	72	78	82	83	79	72	69	87
MTRL 1400 (600 RPM)	Inlet / Aspiración	65	77	83	87	88	84	77	74	92
MTRL 1600 (600 RPM)	Inlet / Aspiración	68	80	87	91	92	87	81	78	96
MTRL 1800 (500 RPM)	Inlet / Aspiración	66	78	85	89	90	85	79	76	94
MTRL 2000 (500 RPM)	Inlet / Aspiración	69	81	88	92	93	88	81	78	97