



FRIEDRICH

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Endeavor™ Line Air Handlers



FRB2TZ

Constant Torque Motor (ECM)
Two Stage Airflow
Efficiencies: 13.4 - 14.3 SEER2



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Features and Benefits

- **Quiet Operation¹:** Provided by a cabinet construction with 1.0 inch foil faced insulation for quieter sound characteristics
- **Rugged Steel Cabinet Construction:** Designed for added strength and versatility
- **Compact Design and 4-Way Field Convertible Design:** Stands at only 35" tall and convertible options include vertical upflow, vertical downflow, horizontal left hand or right hand air supply
- **Field-installed Auxiliary Heater Kits:** Provide exact heat for indoor comfort and include circuit breakers which meet UL and cUL requirements for service disconnect
- **Less than 2% Cabinet Air Leakage at 1-inch H₂O:** When tested in accordance with AHRAE Standard 193

¹Based on manufacturer's air handler offering, and the product's airflow stages, motor type and cabinet insulation. Sound levels are also dependent on air handler location and installation.

Air Handlers

<u>FR</u>	<u>B</u>	<u>2</u>	<u>T</u>	<u>Z</u>	<u>24</u>	<u>17</u>	<u>S</u>	<u>T</u>	<u>A</u>	<u>N</u>	<u>M</u>	<u>A</u>	<u>B</u>	<u>0</u>
Brand	Product Category	Stages Of Airflow	Motor Type	Refrigerant	Capacity	Width	Efficiency	Metering	Major Series	Controls	Coil Series	Voltage	Disconnect	Factory Heat
FR - Friedrich®	B - Low Boy 34*	2 - 2-Stage	T - Constant Torque	Z - R-410A	24 - 24,000 [7.03 kW] 36 - 36,000 [10.55 kW] 48 - 48,000 [14.07 kW] 60 - 60,000 [17.58 kW]	17 - 17.5" 21 - 21" 24 - 24.5"	S - Standard	T - TXV	A - 1st Design	N - Non-Communicating	M - Multiflex	A - 115/1/60 J - 208-240/1/60	B - Breaker N - None	0 - No Heat 3 - 3 kW 5 - 5 kW 7 - 7 kW 10 - 10 kW

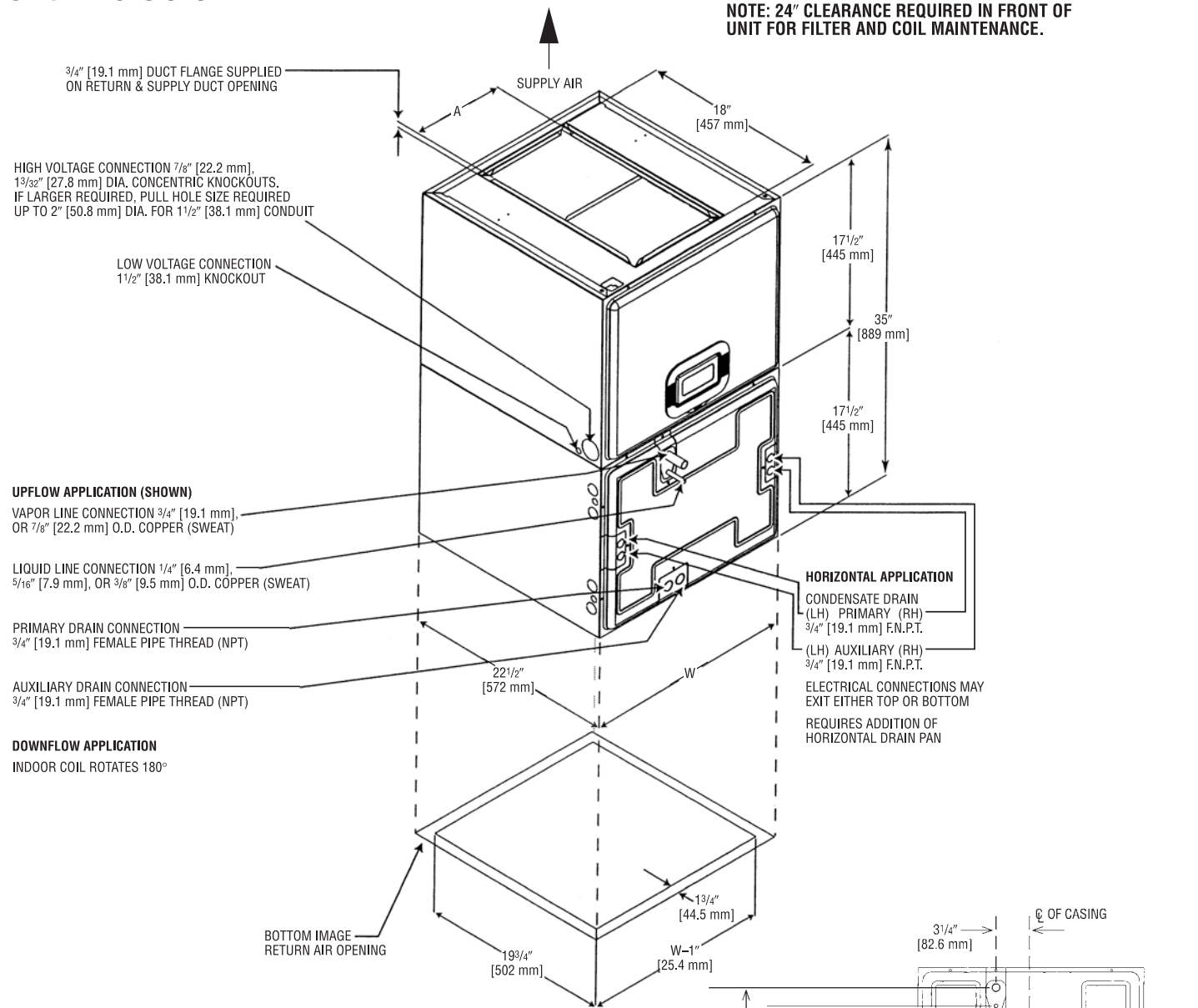
[] Designates Metric Conversions

Available Models
FRB2TZ2417STANMJB05
FRB2TZ2417STANMJB07
FRB2TZ2417STANMAN00
FRB2TZ3621STANMJB05
FRB2TZ3621STANMJB07
FRB2TZ3621STANMJB10
FRB2TZ3621STANMAN00
FRB2TZ4824STANMJB05
FRB2TZ4824STANMJB07
FRB2TZ4824STANMJB10
FRB2TZ4824STANMAN00
FRB2TZ6024STANMJB10
FRB2TZ6024STANMAN00

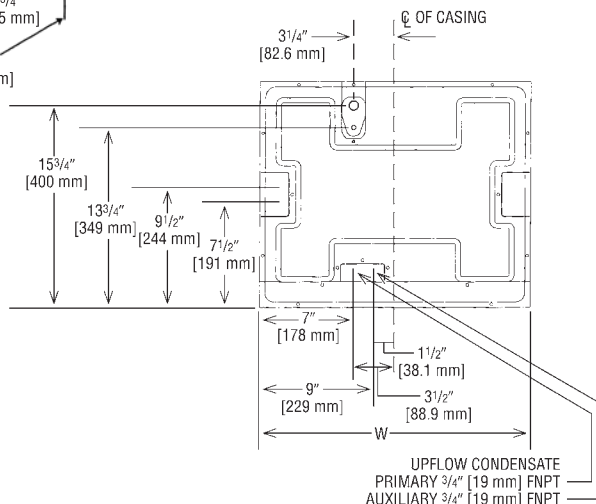
Standard Equipment
Compact Unit Design
Quiet, efficient ECM Motor provides nominal airflow to 0.58 inch [12 kPa] of external static pressure
Field selectable airflow
Low continuous fan speed
Rugged steel cabinet construction 1" foil faced insulation
Four leg rubber insulated wire motor mount
Circuit breakers are standard on all electric heat models
Provisions for field electrical connections from both sides of cabinet
Slide out blower design for easy service & maintenance
Tab lock blower housing with integrated electric heaters, controls, motor and blower

Unit Dimensions

NOTE: 24" CLEARANCE REQUIRED IN FRONT OF UNIT FOR FILTER AND COIL MAINTENANCE.



**UPFLOW UNIT (WITH COIL) SHOWN:
UNIT MAY BE INSTALLED UPFLOW, DOWNFLOW,
HORIZONTAL RIGHT OR LEFT HAND AIR SUPPLY.**



Return Air Opening Dimensions

Model Cabinet Size	Return Air Opening Width (Inches)	Return Air Opening Depth/Length (Inches)
17	15 7/8	19 3/4
21	19 3/8	19 3/4
24	22 7/8	19 3/4

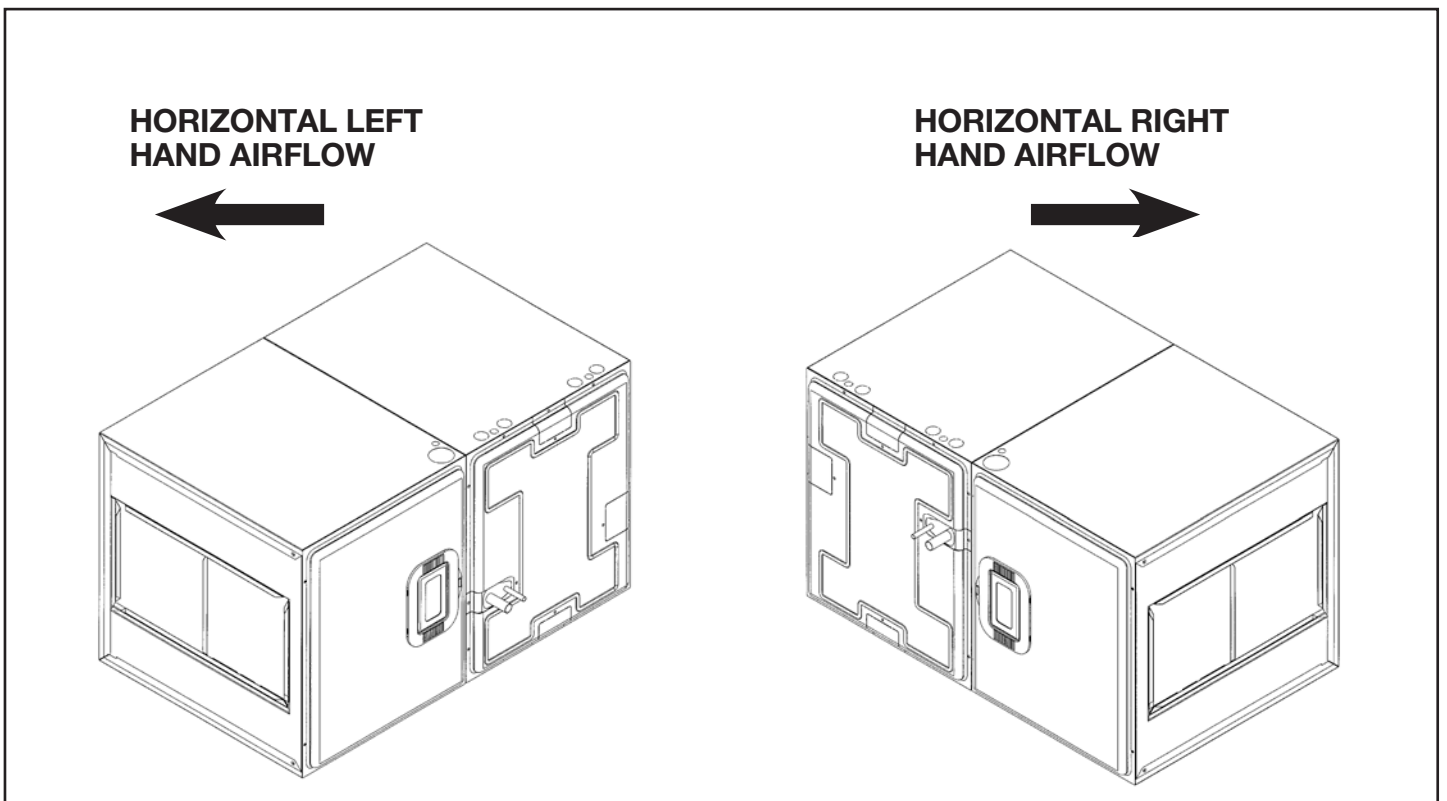
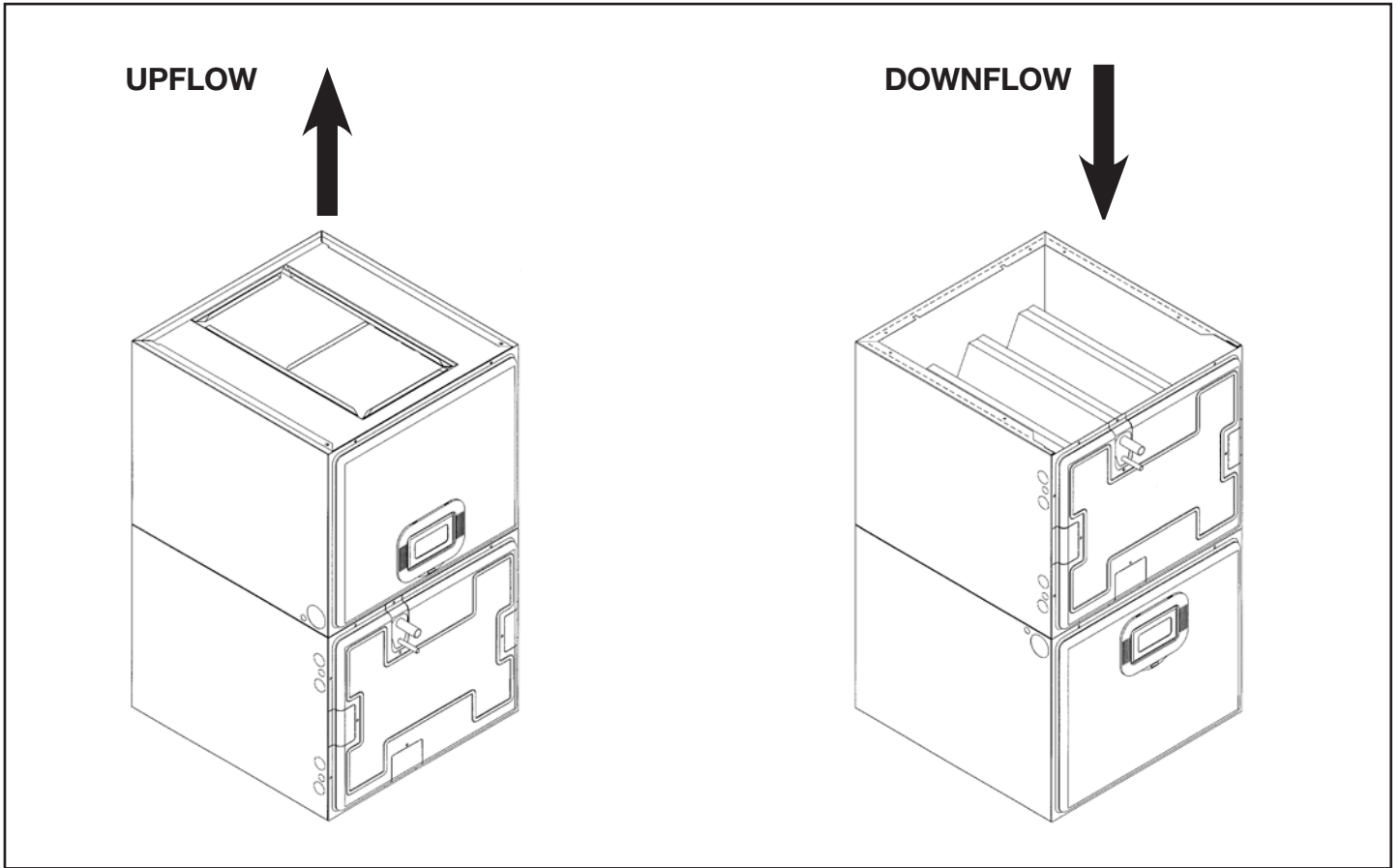
[] Designates Metric Conversions

Unit Dimensions & Weights

Model Cabinet Size	Unit Width "W" In. [mm]	Supply Duct "A" In. [mm]	Unit Weight/Shipping Weight (Lbs.) [kg]
FRB2TZ2417ST	17 ¹ / ₂ [445]	7 ⁹ / ₁₆ [192]	92/99 [42/45]
FRB2TZ3621ST	21 [533]	9 ⁷ / ₁₆ [240]	109/117 [49/53]
FRB2TZ4824ST	24 ¹ / ₂ [622]	11 ³ / ₄ [298]	125/134 [57/61]

[] Designates Metric Conversions

Airflow Directional Data



NOTE: Coil and blower section are always in a draw through configuration.

Airflow Performance

Airflow performance data is based on cooling performance with a coil and no filter in place. Select performance table for appropriate unit size, voltage and number of electric heaters to be used. Make sure external static applied to unit allows operation within the minimum and maximum limits shown in

table below for both cooling and electric heat operation. For optimum blower performance, operate the unit in the .3 [8 mm] to .7 inches [18 mm] W.C. external static range. Units with coils should be applied with a minimum of .1 inch [3 mm] W.C. external static range.

General Airflow Operating Limits

Model Cabinet Size	17		21		24		24	
Cooling BTUH Cooling Tons Nominal	18,000 1.5	24,000 2	30,000 2.5	36,000 3	42,000 3.5	48,000 4	60,000 5	60,000 5
Heat Pump or Air Conditioning Maximum Heat/Cool CFM (37.5 CFM/1,000 BTUH) (450 CFM/Ton Nominal)	675	900	1125	1350	1575	1800	2025	2250
Heat Pump or Air Conditioning Nominal Heat/Cool CFM (33.3 CFM/1,000 BTUH) (400 CFM/Ton Nominal)	600	800	1000	1200	1400	1600	1800	2000
Heat Pump or Air Conditioning Minimum Heat/Cool CFM (30.0 CFM/1,000 BTUH) (360 CFM/Ton Nominal)	540	720	900	1080	1260	1440	1620	1800
Maximum kW Electric Heating & Minimum Electric Heat CFM	11 560	11 560	11 900	11 1220	18 1220	18 1220	18 1460	18 1460
Maximum Electric Heat Rise °F	85	85	35	35	65	65	43	43

115V/208V/240V Airflow Performance Data—FRB2TZ (Constant Torque (ECM) Motor)

Model			Blower Motor			External Static Pressure—Inches W.C. [kPa] with filter & indoor coil									
Cabinet Size	Tonnage	Heaters	Electric Nominal Speed Tap	Voltage		0.1 [.02]	0.2 [.05]	0.3 [.07]	0.4 [.10]	0.5 [.12]	0.6 [.15]	0.7 [.17]	0.8 [.20]	0.9 [.23]	1.0 [.25]
-17	1.5 Ton	none	2	208/240	CFM	—	519	476	433	391	348	301	257	181	120
					WATTS	—	52.8	57.1	61.5	66.3	71.7	76.7	80.1	84.0	86.4
		none	3	208/240	CFM	—	720	689	656	623	591	559	526	495	463
					WATTS	—	99.3	104.5	109.8	115.4	120.8	126.2	132.1	138.5	145.1
		3 (max)	2	208/240	CFM	—	509	466	423	381	338	291	247	171	110
					WATTS	—	47.8	52.1	56.5	61.3	66.7	71.7	75.1	79.0	81.4
	3 (max)	3	208/240	CFM	—	710	679	646	613	581	549	516	485	453	
				WATTS	—	94.3	99.5	104.8	110.4	115.8	121.2	127.1	133.5	140.1	
	none	2	115	CFM	—	550	509	468	429	390	347	255	303	183	
				WATTS	—	49.1	54.2	59.1	63.8	68.8	74.5	84.4	80.4	88.3	
	none	3	115	CFM	745	712	678	645	613	581	548	517	488	451	
				WATTS	92.9	98.8	105.6	111.6	117.6	123.3	129.1	135.5	141.3	149.3	
	2.0 Ton	none	4	208/240	CFM	—	602	563	525	490	452	414	374	334	292
					WATTS	—	68.6	73.3	78.0	82.4	87.4	93.3	99.4	105.1	108.6
		none	5	208/240	CFM	—	—	845	818	792	764	735	707	680	654
					WATTS	—	—	158.4	164.5	170.7	176.9	183.9	190.7	197.0	203.6
		3 (max)	4	208/240	CFM	—	592	553	515	480	442	404	364	324	282
					WATTS	—	63.6	68.3	73.0	77.4	82.4	88.3	94.4	100.1	103.6
3 (max)		5	208/240	CFM	—	—	835	808	782	754	725	697	670	644	
				WATTS	—	—	153.4	159.5	165.7	171.9	178.9	185.7	192.0	198.6	
none		4	115	CFM	641	605	567	530	496	460	427	387	349	305	
				WATTS	67.1	72.7	78.5	83.8	88.8	94.6	99.8	106.6	113.2	118.1	
none	5	115	CFM	896	870	840	810	782	754	727	699	674	648		
			WATTS	147.5	154.0	161.9	169.5	176.9	183.9	191.1	197.9	205.2	212.4		

[] Designates Metric Conversions

115V/208V/240V Airflow Performance Data—FRB2TZ (Constant Torque (ECM) Motor) (Con't.)

Model			Blower Motor			External Static Pressure—Inches W.C. [kPa] with filter & indoor coil									
Cabinet Size	Tonnage	Heaters	Electric Nominal Speed Tap	Voltage		0.1 [.02]	0.2 [.05]	0.3 [.07]	0.4 [.10]	0.5 [.12]	0.6 [.15]	0.7 [.17]	0.8 [.20]	0.9 [.23]	1.0 [.25]
-21	2.5 Ton	none	2	208/240	CFM	789	743	699	605	557	497	451	391	322	254
					WATTS	57.9	63.2	68.4	79.0	85.3	91.8	96.8	105.1	110.0	113.2
		none	3	208/240	CFM	1060	1027	994	963	927	894	859	826	793	760
					WATTS	145.7	152.4	160.0	167.5	175.3	182.0	189.5	197.0	204.7	212.4
		3 (max)	2	208/240	CFM	819	773	729	635	587	527	481	421	352	284
					WATTS	67.9	73.2	78.4	89.0	95.3	101.8	106.8	115.1	120.0	123.2
		3 (max)	3	208/240	CFM	1090	1057	1024	993	957	924	889	856	823	790
					WATTS	155.7	162.4	170.0	177.5	185.3	192.0	199.5	207.0	214.7	222.4
		none	2	115	CFM	737	693	650	602	554	492	450	391	325	239
					WATTS	67.4	73.5	79.4	85.5	91.9	99.4	105.2	113.6	120.0	123.7
		none	3	115	CFM	1076	1042	1010	977	944	911	877	841	805	768
					WATTS	158.3	166.3	174.2	182.3	190.2	198.5	206.5	215.0	223.4	232.3
	3.0 Ton	none	4	208/240	CFM	790	749	706	661	617	572	511	474	417	357
					WATTS	72.3	77.9	83.5	88.9	94.7	101.1	108.3	113.0	122.0	127.4
		none	5	208/240	CFM	1197	1171	1143	1114	1086	1057	1025	994	964	934
					WATTS	202.2	209.9	218.3	227.1	235.3	243.8	252.1	260.1	269.1	278.4
		3 (max)	4	208/240	CFM	820	779	736	691	647	602	541	504	447	387
					WATTS	85.3	90.9	96.5	101.9	107.7	114.1	121.3	126.0	135.0	140.4
		3 (max)	5	208/240	CFM	1227	1201	1173	1144	1116	1087	1055	1024	994	964
					WATTS	215.2	222.9	231.3	240.1	248.3	256.8	265.1	273.1	282.1	291.4
		none	4	115	CFM	808	767	738	726	684	640	594	532	493	453
					WATTS	81.6	88.0	92.4	94.3	100.7	107.3	114.1	122.5	128.6	135.9
		none	5	115	CFM	1201	1172	1141	1113	1083	1060	1055	1026	995	963
					WATTS	216.4	224.5	233.9	242.5	251.7	258.9	260.5	269.3	278.6	288.4

[] Designates Metric Conversions

115V/208V/240V Airflow Performance Data—FRB2TZ (Constant Torque (ECM) Motor) (Con't.)

Model			Blower Motor			External Static Pressure—Inches W.C. [kPa] with filter & indoor coil									
Cabinet Size	Tonnage	Heaters	Electric Nominal Speed Tap	Voltage		0.1 [.02]	0.2 [.05]	0.3 [.07]	0.4 [.10]	0.5 [.12]	0.6 [.15]	0.7 [.17]	0.8 [.20]	0.9 [.23]	1.0 [.25]
-24	3.5 Ton	none	2	208/240	CFM	901	835	782	731	681	620	565	515	472	420
					WATTS	72.1	80.6	87.7	94.3	100.7	108.1	115.2	121.2	127.0	133.4
		none	3	208/240	CFM	1531	1494	1444	1404	1370	1338	1306	1275	1245	1217
					WATTS	255.3	267.6	284.5	298.6	310.5	322.3	333.7	344.7	354.9	365.2
		3 (max)	2	208/240	CFM	926	860	807	756	706	645	590	540	497	445
					WATTS	92.1	100.6	107.7	114.3	120.7	128.1	135.2	141.2	147.0	153.4
	3 (max)	3	208/240	CFM	1556	1519	1469	1429	1395	1363	1331	1300	1270	1242	
				WATTS	275.3	287.6	304.5	318.6	330.5	342.3	353.7	364.7	374.9	385.2	
	none	2	115	CFM	896	835	783	733	678	632	579	519	481	438	
				WATTS	76.3	85.7	93.6	100.9	108.7	115.6	124.1	132.7	138.9	145.7	
	none	3	115	CFM	1504	1473	1433	1383	1350	1317	1286	1256	1227	1195	
				WATTS	260.9	271.6	286.6	305.5	317.2	329.3	341.9	352.7	363.4	373.6	
	4.0 Ton	none	4	208/240	CFM	1105	1043	998	957	915	875	824	780	737	693
					WATTS	113.0	124.8	133.0	141.1	148.6	155.8	165.4	173.9	181.8	189.6
		none	5	208/240	CFM	1656	1629	1589	1544	1508	1482	1454	1424	1394	1365
					WATTS	322.7	334.3	350.6	369.5	384.9	397.1	409.1	421.8	435.2	447.7
		3 (max)	4	208/240	CFM	1135	1073	1028	987	945	905	854	810	767	723
					WATTS	133.0	144.8	153.0	161.1	168.6	175.8	185.4	193.9	201.8	209.6
3 (max)		5	208/240	CFM	1686	1659	1619	1574	1538	1512	1484	1454	1424	1395	
				WATTS	342.7	354.3	370.6	389.5	404.9	417.1	429.1	441.8	455.2	467.7	
none		4	115	CFM	1119	1061	1016	974	934	884	842	798	756	711	
				WATTS	121.8	134.1	143.6	152.5	161.0	169.9	178.3	187.7	198.0	207.0	
none		5	115	CFM	1655	1625	1593	1544	1512	1479	1451	1423	1396	1369	
				WATTS	342.7	355.7	370.3	392.6	407.4	423.0	436.1	449.5	462.4	475.5	

[] Designates Metric Conversions

115V/208V/240V Airflow Performance Data—FRB2TZ (Constant Torque (ECM) Motor) (Con't.)

Model			Blower Motor			External Static Pressure—Inches W.C. [kPa] with filter & indoor coil									
Cabinet Size	Tonnage	Heaters	Electric Nominal Speed Tap	Voltage		0.1 [.02]	0.2 [.05]	0.3 [.07]	0.4 [.10]	0.5 [.12]	0.6 [.15]	0.7 [.17]	0.8 [.20]	0.9 [.23]	1.0 [.25]
-24	5 Ton	none	2	208/240	CFM	1121	1062	1007	950	877	799	693	637	580	514
					WATTS	100.7	110.1	118.7	127.9	138.8	149.5	161.4	168.3	174.8	182.2
		none	3	208/240	CFM	1657	1618	1582	1548	1516	1481	1437	1398	1343	1294
					WATTS	274.5	287.4	300.0	311.9	324.4	336.7	350.7	364.8	382.7	398.4
		3 (max)	2	208/240	CFM	1079	1020	965	908	835	757	651	595	538	472
					WATTS	121	130	139	148	159	169	181	188	195	202
		3 (max)	3	208/240	CFM	1615	1576	1540	1506	1474	1439	1395	1356	1301	1252
					WATTS	295	307	320	332	344	357	371	385	403	418
		none	2	115	CFM	1111	1058	1004	938	874	791	692	626	573	501
					WATTS	104.3	113.1	122.5	134.1	144.3	157.1	168.0	176.0	183.6	191.3
		none	3	115	CFM	1658	1620	1580	1546	1514	1478	1435	1393	1347	1299
					WATTS	283.2	296.8	311.0	323.3	336.4	350.0	365.0	379.8	396.0	412.9
		none	4	208/240	CFM	1226	1179	1131	1080	1022	957	884	778	728	674
					WATTS	125.6	134.5	144.2	153.9	164.7	176.4	188.1	201.9	208.9	217.7
		none	5	208/240	CFM	2010	1977	1944	1917	1887	1860	1838	1809	1787	1760
					WATTS	470.4	485.6	504.6	520.4	537.8	554.0	569.8	587.5	603.5	621.0
		3 (max)	4	208/240	CFM	1184	1137	1089	1038	980	915	842	736	686	632
					WATTS	145.6	154.5	164.2	173.9	184.7	196.4	208.1	221.9	228.9	237.7
3 (max)	5	208/240	CFM	1968	1935	1902	1875	1845	1818	1796	1767	1745	1718		
			WATTS	490.4	505.6	524.6	540.4	557.8	574.0	589.8	607.5	623.5	641.0		
none	4	115	CFM	1213	1161	1110	1060	998	938	848	757	697	653		
			WATTS	126.0	136.1	146.3	156.3	168.3	179.3	194.2	206.3	215.6	222.8		
none	5	115	CFM	2014	1985	1953	1920	1887	1856	1829	1801	1774	1739		
			WATTS	489.5	505.8	524.3	542.5	560.6	578.9	594.6	611.9	629.1	649.3		

[] Designates Metric Conversions

Electrical Data—Blower Motor Only Without Electric Heat

Model Size/Elec. Designation	Voltage	Phase	Hertz	HP [W]	RPM	Speeds	Motor Amps.	Minimum Circuit Ampacity	Maximum Circuit Protector
(-)B2TZ2417STANMAN00	115	1	60	1/3 [249]	300-1100	5	3.3	5.0	15
(-)B2TZ3621STANMAN00	115	1	60	1/2 [373]	300-1100	5	5.0	7.0	15
(-)B2TZ4824STANMAN00	115	1	60	3/4 [559]	300-1100	5	6.4	8.0	15
(-)B2TZ6024STANMAN00	115	1	60	3/4 [559]	300-1100	5	8.5	11.0	15

Model Size/Elec. Designation	Voltage	Phase	Hertz	HP [W]	RPM	Speeds	Motor Amps.	Minimum Circuit Ampacity	Maximum Circuit Protector
(-)B2TZ2417STANMJ***	208-230	1	60	1/3 [249]	300-1100	5	1.8	2.3	15
(-)B2TZ3621STANMJ***	208-230	1	60	1/2 [373]	300-1100	5	2.4	3.0	15
(-)B2TZ4824STANMJ***	208-230	1	60	3/4 [559]	300-1100	5	3.8	4.8	15
(-)B2TZ6024STANMJ***	208-230	1	60	3/4 [559]	300-1100	5	5.0	6.3	15

Electrical Data—With Electric Heat

Model Size/Elec. Designation	Heater KW-Volts 208/240	Voltage	Phase	Hertz	HP [W]	RPM	Speeds	Heater Amps.	Motor Amps.	Minimum Circuit Ampacity	Maximum Circuit Protector
FRB2TZ2417STANMJB05	3.7/4.9	208-230	1	60	1/3 [249]	300-1100	5	19.8/22.4	1.8	27/31	30/40
FRB2TZ2417STANMJB07	5.3/7.0	208-230	1	60	1/3 [249]	300-1100	5	27.5/31.2	1.8	37/42	40/50
FRB2TZ3621STANMJB05	3.7/4.9	208-230	1	60	1/2 [373]	300-1100	5	20.9/23.5	2.4	30/33	30/40
FRB2TZ3621STANMJB07	5.3/7.0	208-230	1	60	1/2 [373]	300-1100	5	28.6/32.3	2.4	39/44	40/50
FRB2TZ3621STANMJB10	7.5/10.0	208-230	1	60	1/2 [373]	300-1100	5	39.2/44.8	2.4	52/59	60/60
FRB2TZ4824STANMJB05	3.7/4.9	208-230	1	60	3/4 [559]	300-1100	5	22.0/24.6	3.8	33/36	40/40
FRB2TZ4824STANMJB07	5.3/7.0	208-230	1	60	3/4 [559]	300-1100	5	29.7/33.4	3.8	42/47	50/50
FRB2TZ4824STANMJB10	7.5/10.0	208-230	1	60	3/4 [559]	300-1100	5	40.3/45.9	3.8	56/63	60/70
FRB1TZ6024STANMJB10	7.5/10.0	208-230	1	60	3/4 [559]	300-1100	5	41.8/47.4	5	59/66	60/70

[] Designates Metric Conversions

Electrical Wiring

Power Wiring

- Field wiring must comply with the National Electrical Code (C.E.C. in Canada) and any applicable local ordinance.
- Supply wiring must be 75°C minimum copper conductors only.
- See electrical data for product Ampacity rating and Circuit Protector requirement.

Grounding

- This product must be sufficiently grounded in accordance with National Electrical Code (C.E.C. in Canada) and any applicable local ordinance.
- A grounding lug is provided.

ACCESSORIES

- **External Auxiliary Horizontal Drain Pan. RXBM-AA06**— Fits all models.

- **Replacement Filters**

<u>Model Cabinet Size</u>	<u>Filter Size In. [mm]</u>	<u>Part Number</u>
17	16.25 x 21 [413 x 533]	54-23217-02
21	19.75 x 21 [502 x 533]	54-23217-03
24	23.25 x 21 [591 x 533]	54-23217-04
25	23.25 x 21 [591 x 533]	54-23217-04

[] Designates Metric Conversions



FRIEDRICH

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GENERAL TERMS OF LIMITED WARRANTY*

Friedrich® will furnish a replacement for any part of this product which fails in normal use and service within the applicable periods stated, in accordance with the terms of the limited warranty.

Conditional Parts
(Registration Required)..... Ten (10) Years

***For complete details of the Limited and Conditional Warranties, including applicable terms and conditions, contact your local contractor or the Manufacturer for a copy of the product warranty certificate.**

Before proceeding with installation, refer to installation instructions packaged with each model, as well as complying with all Federal, State, Provincial, and Local codes, regulations, and practices.

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In keeping with its policy of continuous progress and product improvement, Friedrich reserves the right to make changes without notice.

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