

SINCE 1894...



ACHELOUS

Variable Speed (VFD)
Air Cooled Screw Chiller
AVX-B 50/60Hz

Cooling Capacity: 406~1656kW (115~470RT)

Dunham-Bush Air Conditioning



ASHRAE
90.1
COMPLIANT





INTRODUCTION

ACHELOUS Variable Speed (VFD) Air Cooled Screw Chiller AVX-B

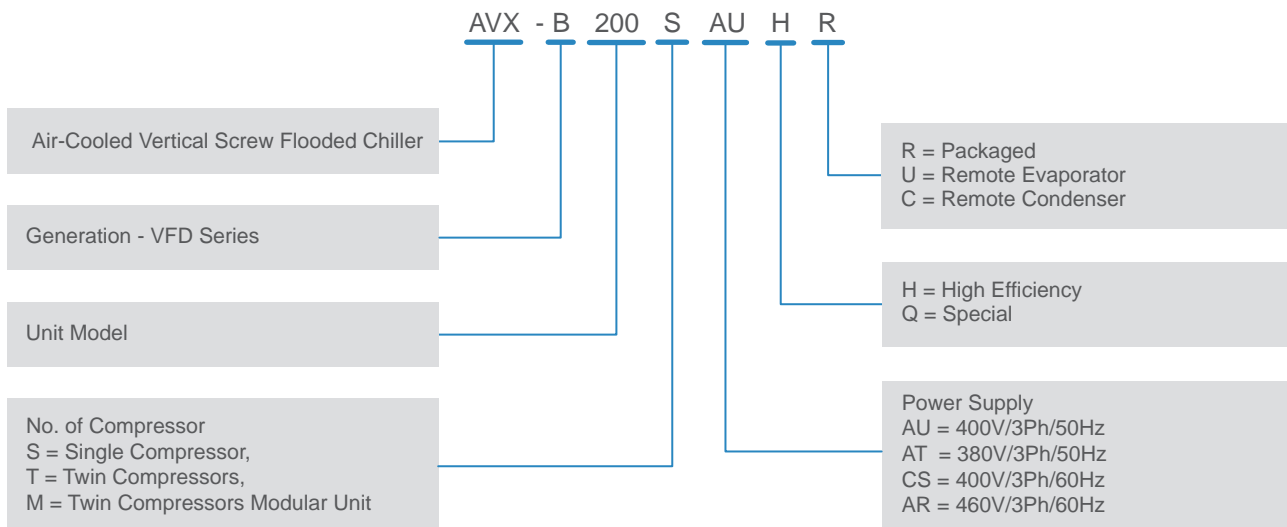


Dunham-Bush AVX-B Series Introduction

Dunham-bush AVX-B Air cooled screw chillers with Variable Speed (VFD) compressor offers owner packaged chiller with supreme efficiency, reliability and sustainability. The AVX-B series offers better efficiency as compare to non-VFD air cooled screw chiller with electricity saving up to 25%.



Nomenclature

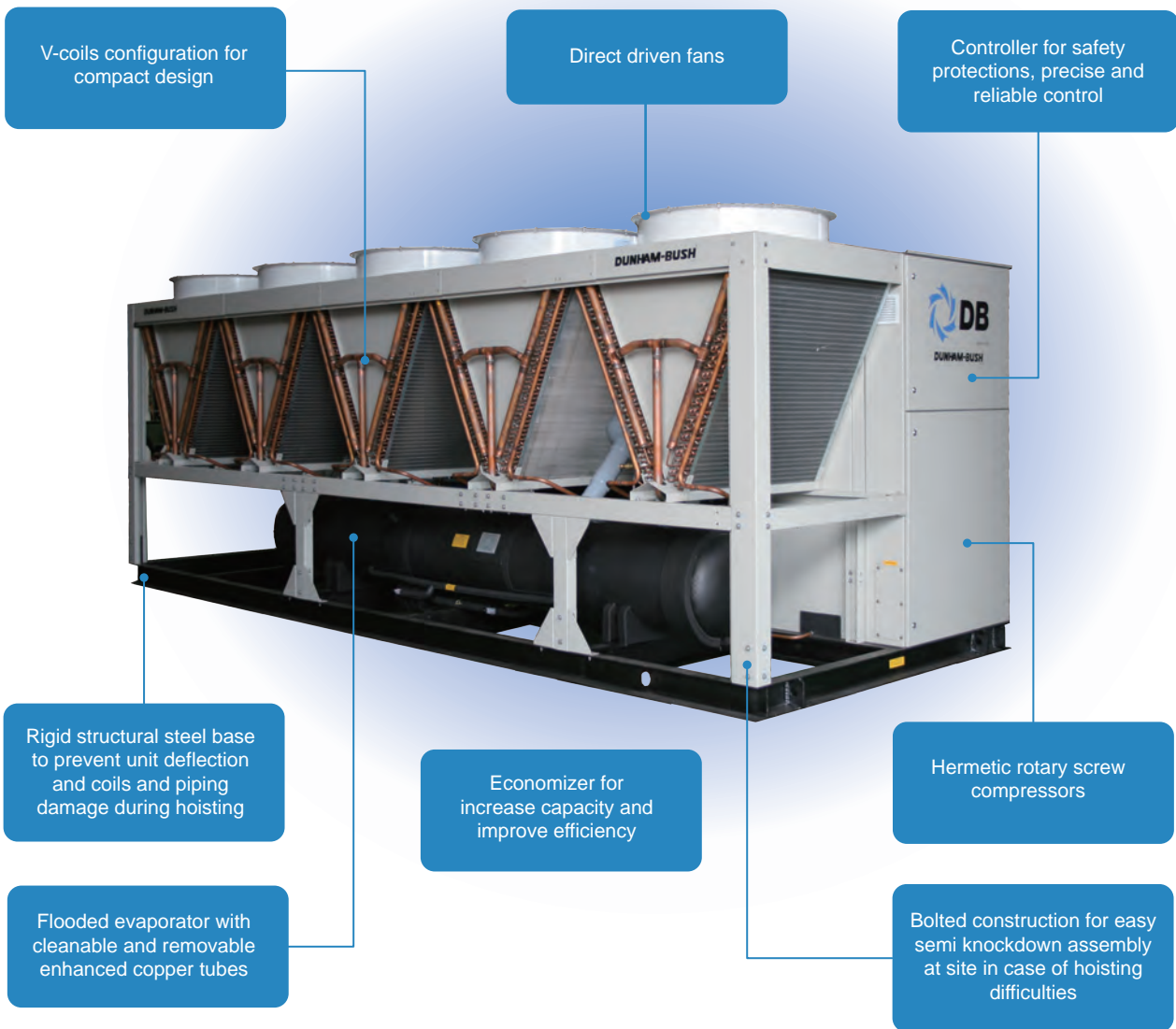


FEATURES



Features and Benefits

AVX-B Air cooled screw chillers are designed to exceed ASHRAE Standard 90.1 requirements. The high efficiency Variable Speed (VFD) compressor, superior evaporator and condenser, Electronic Expansion Valve (EEV) and the intelligent chiller controller ensures the AVX-B performance and stability when operates at both full load and part load conditions.





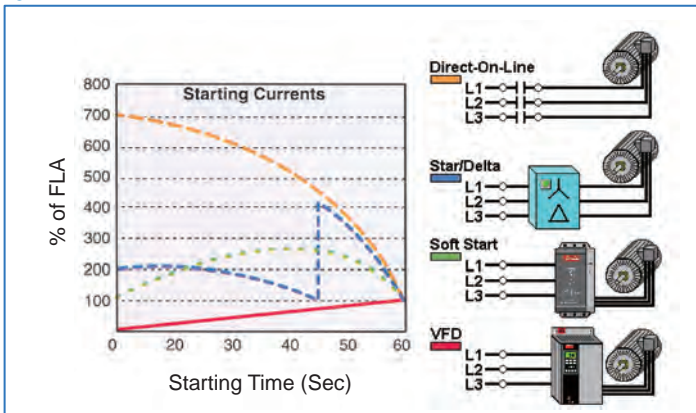
Advanced Technology

Variable Frequency Drive (VFD)

Dunham-Bush built in Variable Frequency Drive (VFD) allow precise capacity control of building load changes and significantly reduce unit power input especially at part load, providing optimized and superior integrated part load value (IPLV).

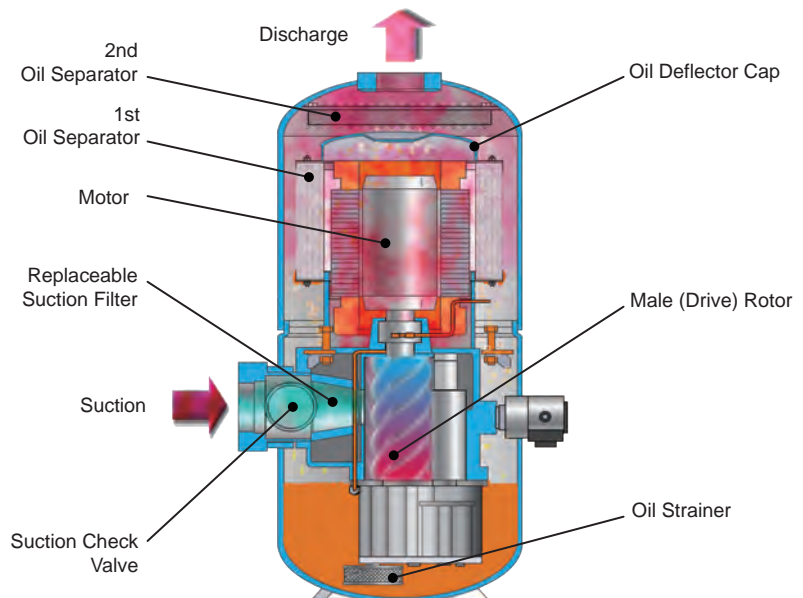


No Inrush Current!



High Efficiency Screw Compressor

Dunham-Bush new compressor series offers improved, high efficiency, and reliable vertical rotary screw compressors optimized for R134a and VFD application. Its welded hermetic design with no requirement for internal parts services, no periodic compressor tear down and overhaul makes it a reliable compressor with hassle free operation.



FEATURES



Touch Screen Panel



Vision 2020i a flexible touch screen and advance programmable electronic controller designed specifically for the applications and precise control of Dunham-Bush Variable Speed Rotary Screw compressor chillers.

The controller board is provided with a set of terminals that connected to various devices such as temperature sensors, pressure and current transducers, solenoid valves, compressors and fans contactors, control relays and etc.

Vision2020i controller is equipped with a user friendly terminal with 7" TFT 65000 color touch screen led back light graphical display.

Refrigerant Liquid Level Control

By using Electronic Expansion Valve (EEV), the refrigerant flow into evaporator can be control precisely. In such, the refrigerant liquid level in evaporator can be controlled at the optimum level to maximized heat transfer in the flooded type, shell-and-tube heat exchanger.



Energy Saving

High COP – AVX-B full load COP is up to 3.30; IPLV is up to 5.72, far more efficient than non-VFD air cooled chillers.

Below table shows an example to compare annual energy consumed by a 300RT VFD versus a 300RT non-VFD air cooled chiller, with 3000 hours operating time annually.

Model	300RT VFD	300RT Non-VFD
Cooling Capacity (KW)	1055kW	1055kW
IPLV	5.72	4.20
Annual Electricity Consumption (KW.h)	332,865	447,120
Electricity Saving (KW.h)	114,255	

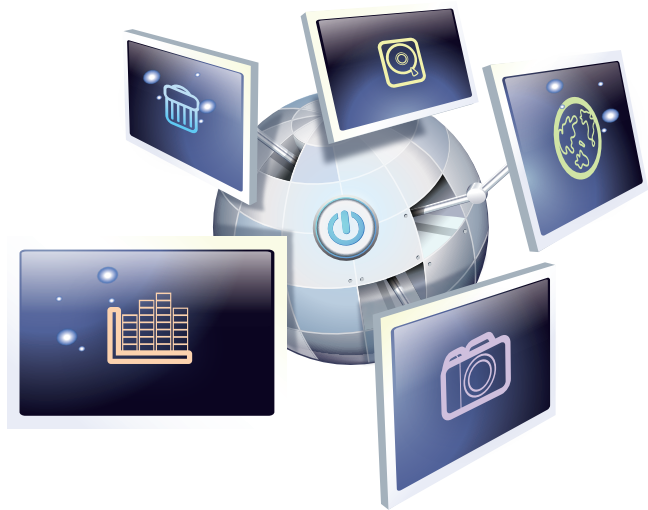


Save 25% Energy



Intelligent Control System

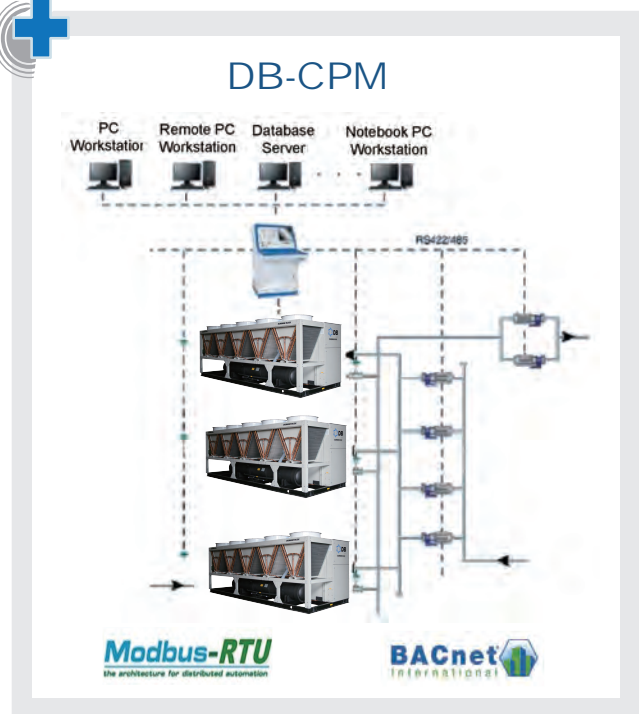
- Low starting current thanks for inverter speed control and softstarter
- Dunham-Bush DB Director control the system efficiently and effectively
- 7" Color Touch Screen Panel
- Display unit operating parameters
- Programmable Unit Operating Schedule
- Self diagnosis on alarm. Last 10 alarms are recorded
- Single power point connection
- BMS communication protocol-Modbus, BACnet, Profibus



BMS Connectivity, Chiller Plantroom Control

- Built-in ModBus RTU RS485 port for direct interfacing of Building Management System (BMS). Profibus RS485 communication protocol is available as option
- DB Chiller Plant Manager, DB-CPM, a trustworthy and headache-free solution for building owners and users on chiller plant control and automation system
- DB-CPM's advanced controllers supervise equipments in chiller plant such as chillers, pumps, and variable frequency drives (VFD); and monitor field devices such as, flow meters, energy meters, digital power meters, sensors & transducers
- NetVisorPRO – Monitoring software of DB-CPM system provides graphical animations on system operation, temperature and energy trend graphs, historical data and alarm history logs

Chiller plantroom control and automation by Dunham-Bush DB-CPM provides owners a chiller system with stable and optimized performance in its operation.



SPECIFICATIONS



AVX-B Technical Specifications

Model	Cooling Capacity	COMPRESSORS		UNIT DIMENSIONS			UNIT WEIGHT	
		Model	Qty	Length	Width	Height	Operating	Shipping
	RT			inch[mm]	inch[mm]	inch[mm]	lbs[kg]	lbs[kg]
AVX-B115S	115.4	1220	1	203.7 [5175]	88 [2235]	88 [2235]	9447 [4285]	9182 [4165]
AVX-B140S	140.2	1220	1	203.7 [5175]	88 [2235]	88 [2235]	10044 [4556]	9680 [4391]
AVX-B170S	170.0	1222	1	248.7 [6318]	88 [2235]	88 [2235]	11781 [5344]	11363 [5154]
AVX-B200S	201.7	1227	1	301.7 [7664]	88 [2235]	98 [2489]	13305 [6035]	12864 [5835]
AVX-B225T	225.5	1220	2	333.2 [8464]	88 [2235]	98 [2489]	17979 [8155]	17494 [7935]
AVX-B225S	226.0	1230	1	301.7 [7664]	88 [2235]	98 [2489]	14389 [6527]	13949 [6327]
AVX-B265S	265.2	2233	1	350.7 [8909]	88 [2235]	98 [2489]	17108 [7760]	16623 [7540]
AVX-B280T	280.3	1220	2	378.7 [9619]	88 [2235]	98 [2489]	19535 [8861]	18984 [8611]
AVX-B300S	300.1	2236	1	398.7 [10128]	88 [2235]	98 [2489]	18212 [8261]	17661 [8011]
AVX-B330T	333.0	1222	2	424.1 [10771]	88 [2235]	98 [2489]	24462 [11096]	23580 [10696]
AVX-B380T	381.8	1222 1227	1 1	469.5 [11925]	88 [2235]	98 [2489]	24577 [11148]	23695 [10748]
AVX-B400T	410.2	1227	2	469.5 [11925]	88 [2235]	98 [2489]	24777 [11239]	23896 [10839]
AVX-B470T	470.8	1230	2	561.6 [14265]	88 [2235]	98 [2489]	28865 [13093]	27895 [12653]



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