

INDUSTRIAL UNIFOIL BACKWARD CURVE



SIZES: 12" - 89" Wheel Diameter

CLASS: I, II, III and IV

PERFORMANCE: 1,500 to 200,000 cfm
and up to 12" SP.

APPLICATION: Light to heavy industrial.
Processes or HVAC systems. Optional
high heat design for applications.

ARRANGEMENT: 1, 3, 8 and 9.

DESIGN: Robust design with a
reinforcing exterior ribs for added
stiffness. SWSI and DWDI designs are
both available.



sales@sheldonsengineering.com
1-800-265-3572

3000 SERIES

Brochure # 3000B-03-05

 **Sheldons Engineering Inc.**
Leaders in Fan Technology



SHELDONS ENGINEERING Inc.

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VENTILATING CENTRIFUGAL FAN with BACKWARD CURVED BLADES –3000

GENERAL

The centrifugal fan shall be designed and manufactured by Sheldons Engineering to ensure smooth operation. Fan wheel shall be single thickness airfoil-Unifoil™ as shown in plans with all steel construction. Unless otherwise directed, fan arrangement, motor location, support base, rotation and discharge are as shown on the layout drawings.

PERFORMANCE

Fan ratings shall be based on tests made in accordance with AMCA Standard 210. Flow shall be actual volumetric flow at the fan inlet. Fan static pressure is defined as static pressure at fan outlet less total pressure at fan inlet. Standard inlet density is to be taken as 0.75 lb/ft³ with corrections for temperature, elevation, inlet static pressure, gas composition and humidity as defined in the schedule. Fans shall be selected to operate to the right of the peak static pressure at the given speed to ensure stable performance. Fan brake horsepower shall be equal to or less than specified at the given flow and fan static pressure.

SOUND

Fan manufacturers shall provide sound power level ratings for fans tested and rated in accordance with AMCA Standards 300 and 301. Sound power ratings shall be in decibels (reference 10-12 watts) in eight octave bands. Sound power levels will be corrected for installation by the specifying engineer...dBA or sound pressure levels only are not acceptable.

CONSTRUCTION

Fan housings are to be heavy – per chart below, continuously welded construction with flanged and punched outlet. Housings with lock seams or spot welded construction are not acceptable.

Fan Size	Class I & II	Class III & IV
122-200	12 gauge (0.1046" or 2.66 mm)	10 gauge
222-365	10 gauge (0.1345" or 3.42 mm)	10 gauge
405-730	10 gauge (0.1345" or 3.42 mm)	7 gauge
805-890	7 gauge (0.1875" or 4.76 mm)	7 gauge

BEARINGS (belt driven fans)

Bearings are to be heavy duty, grease lubricated, precision anti-friction spherical roller, self-aligning pillow block design. Bearings shall be designed for a minimum L-10 life of AMCA Class I: 15,000, AMCA Class II: 40,000, AMCA Class III: 100,000, Class IV 200,000 when rated at the fan's maximum cataloged operating speed for the given class.

SHAFT (belt driven fans)

Shafts are to be ASTM A-108 steel, grade 1040/1045, precision turned, ground and polished. Grade 1018 steel is not acceptable. The shaft's first critical speed shall be at least 143% of the fan's maximum operating speed.



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PAINT

All fan surfaces are to be thoroughly prepared prior to painting using a combination of washing and hand and power tool cleaning as required in SSPC-SP-3. After cleaning, all surfaces are to be coated with industrial grade alkyd enamel. Surfaces of bolted components not accessible after assembly shall be coated and allowed to dry prior to final assembly. Primer only will not be accepted.

BALANCE & INSPECTION

All fans shall be precision balanced to ISO quality grade 2.5, report to be submitted with the maintenance manual. A final inspection by a qualified inspector prior to shipment is required to include: scope of supply confirmation, balance, welding, dimensions, bearings, duct and base connection points, paint finish and overall workmanship.

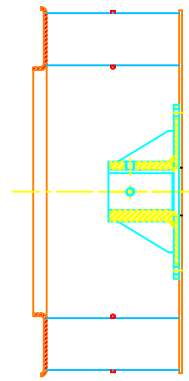
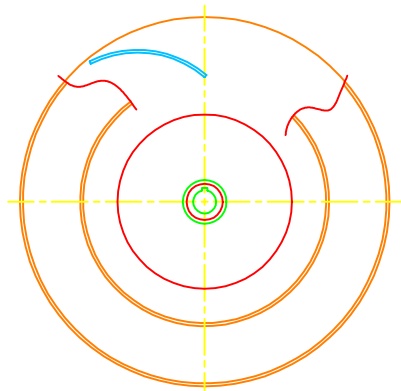
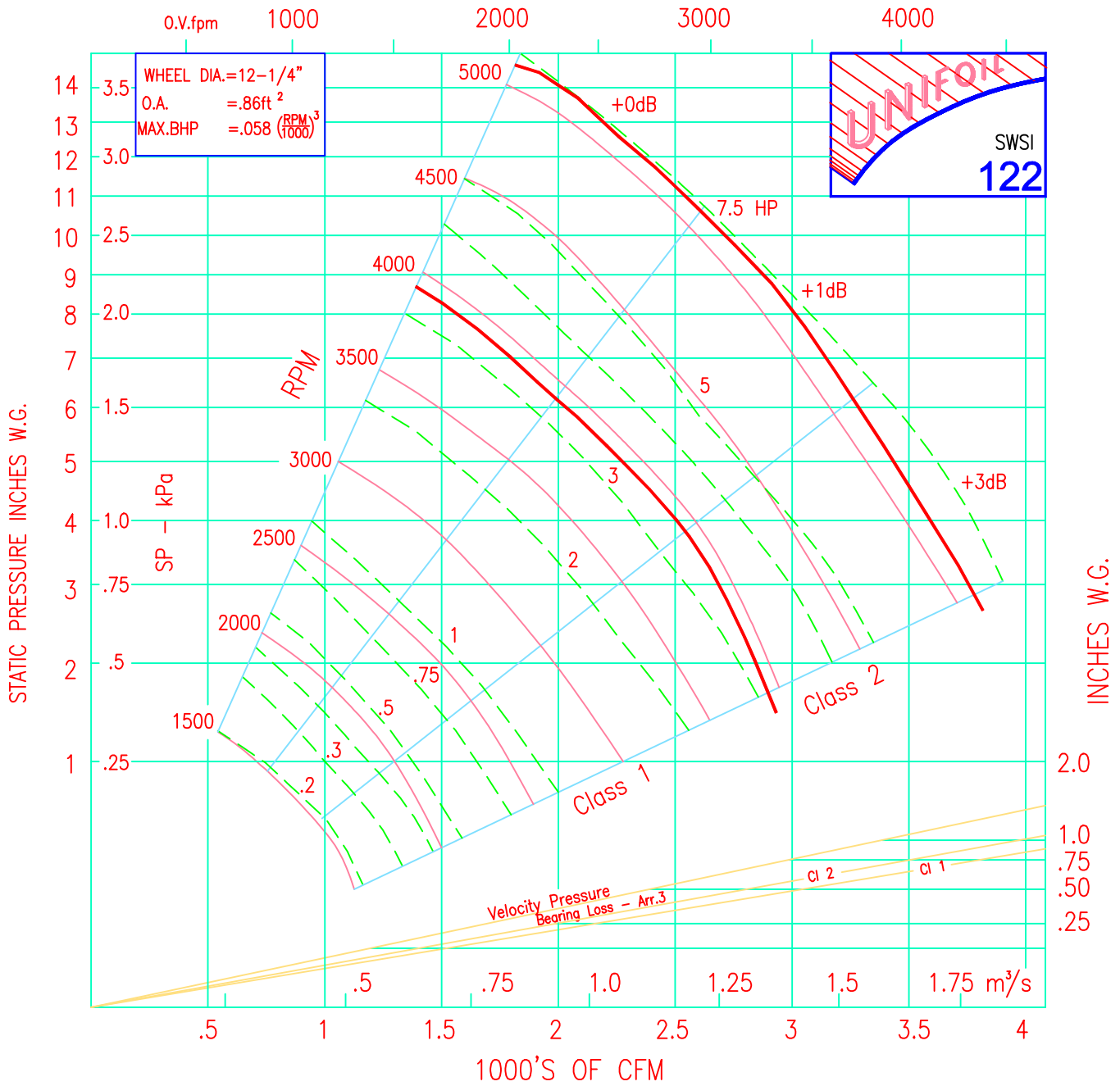
ACCESSORIES

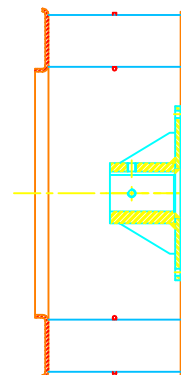
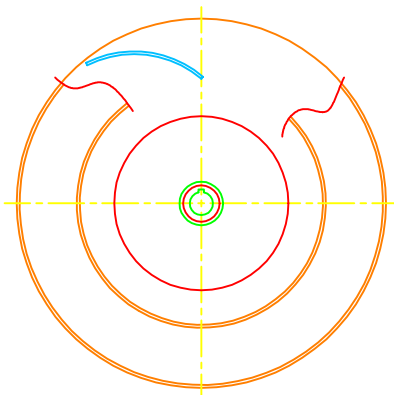
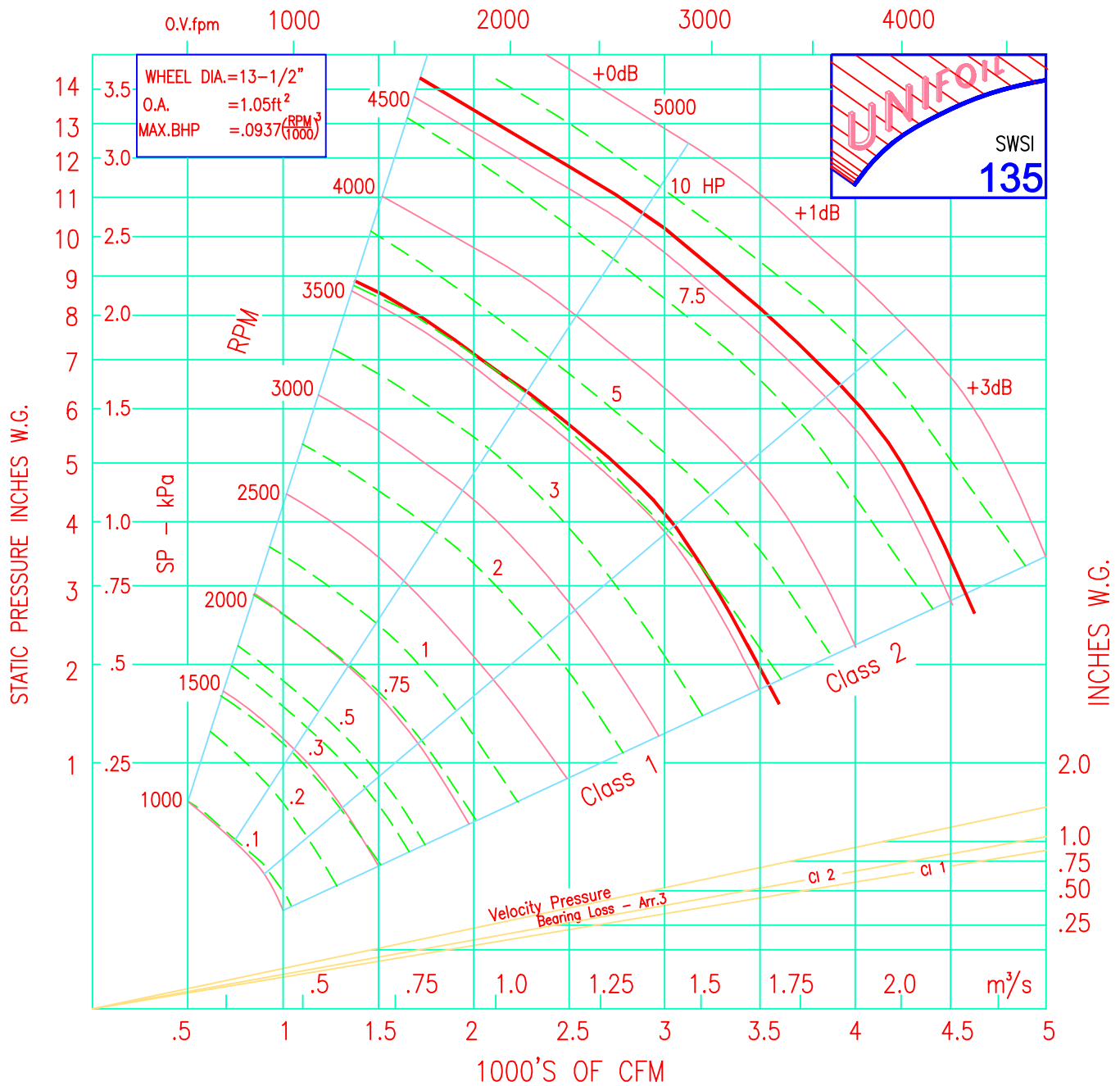
Accessories shall be provided as called for in the plans and specifications. Standard accessories include:

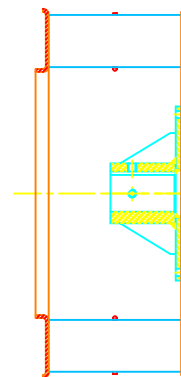
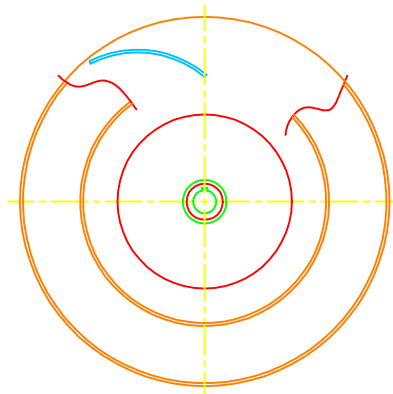
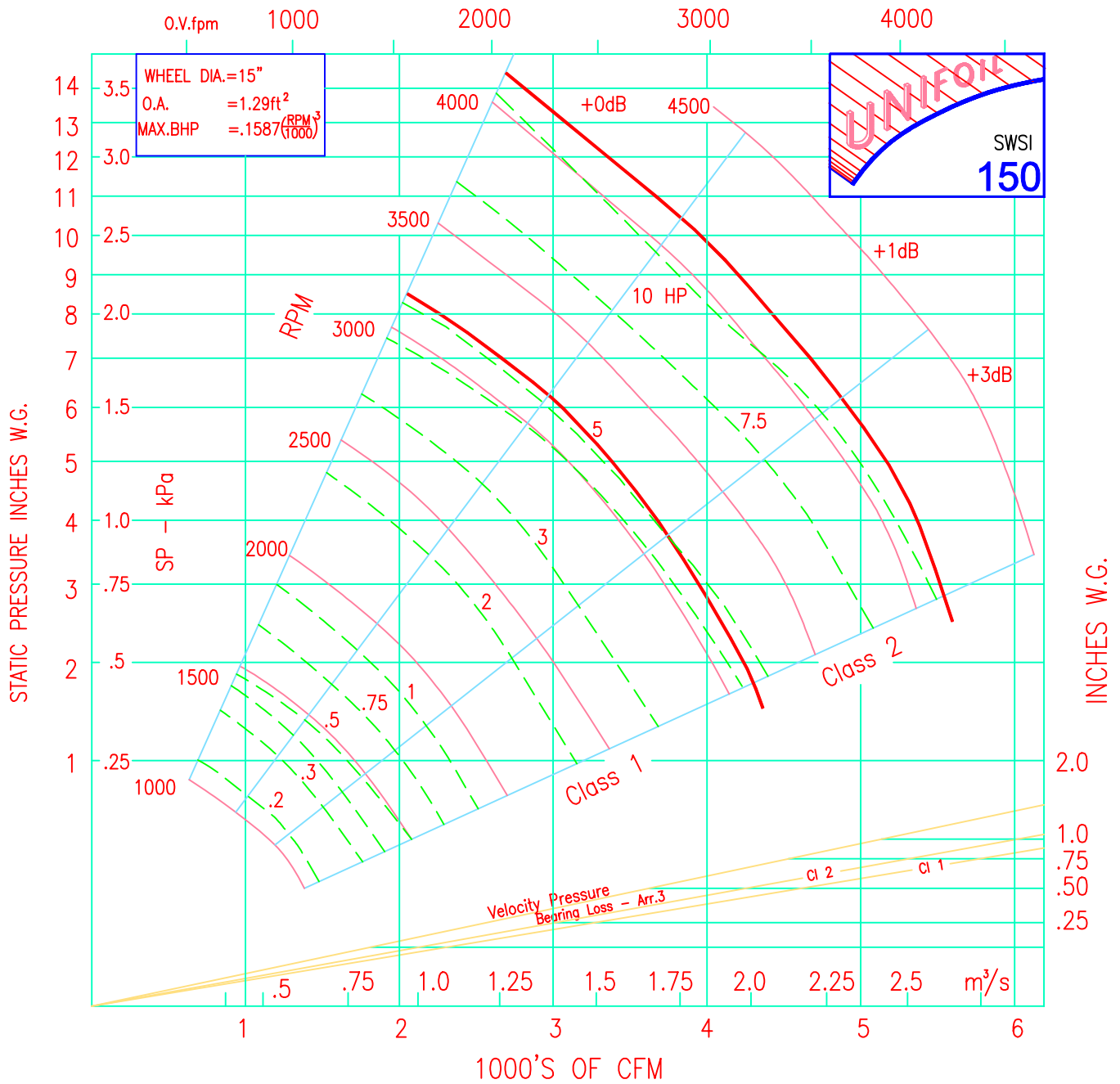
Motor to be NEMA Design B 3/60/460-575V-1800 rpm, high efficiency TEFC 1.15 SF
V-Belt Drives - Variable Speed/Constant Speed with min 1.5 SF
Belt Guard or weather cover required
Extended lubrication lines (nylon, copper or stainless steel) with fittings terminating in an accessible area.

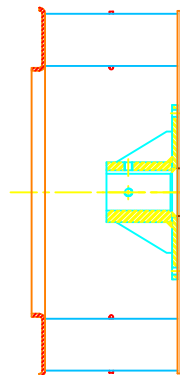
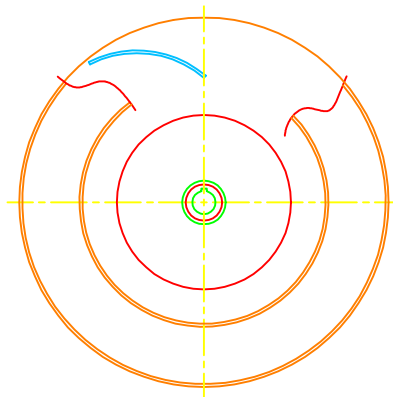
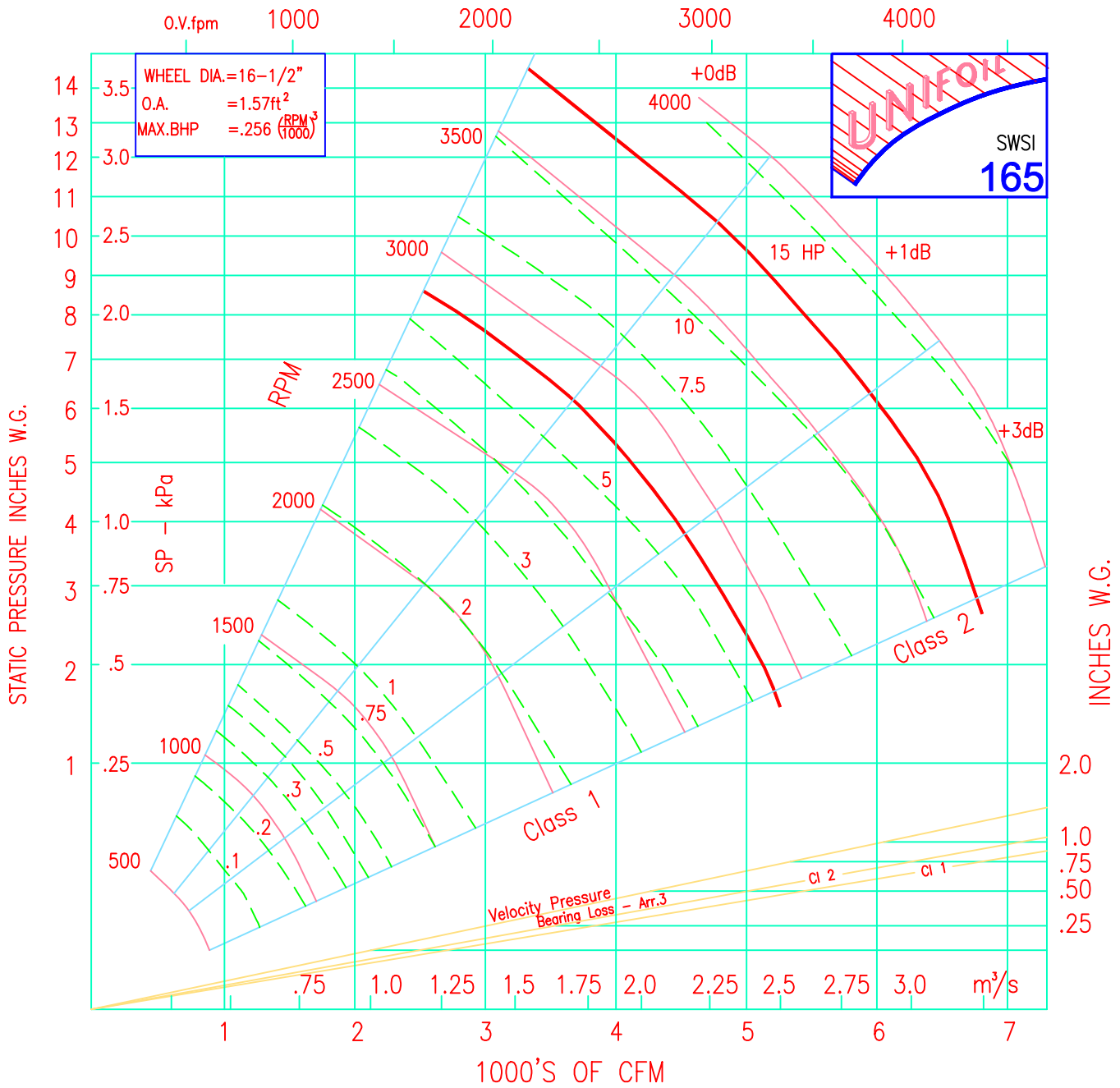
Additional Features that may be required:

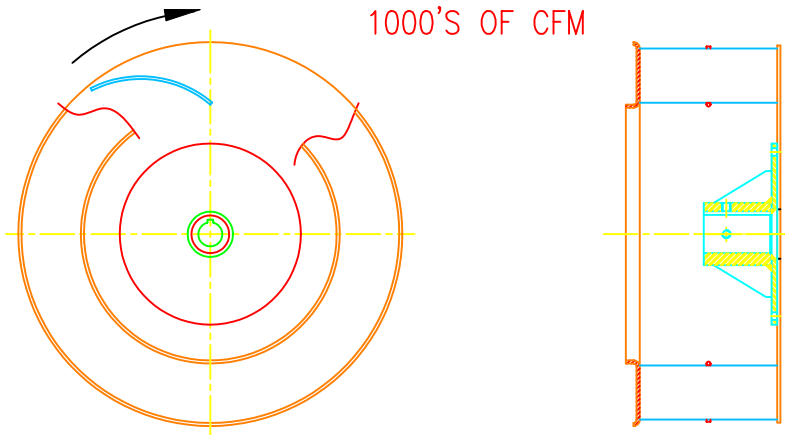
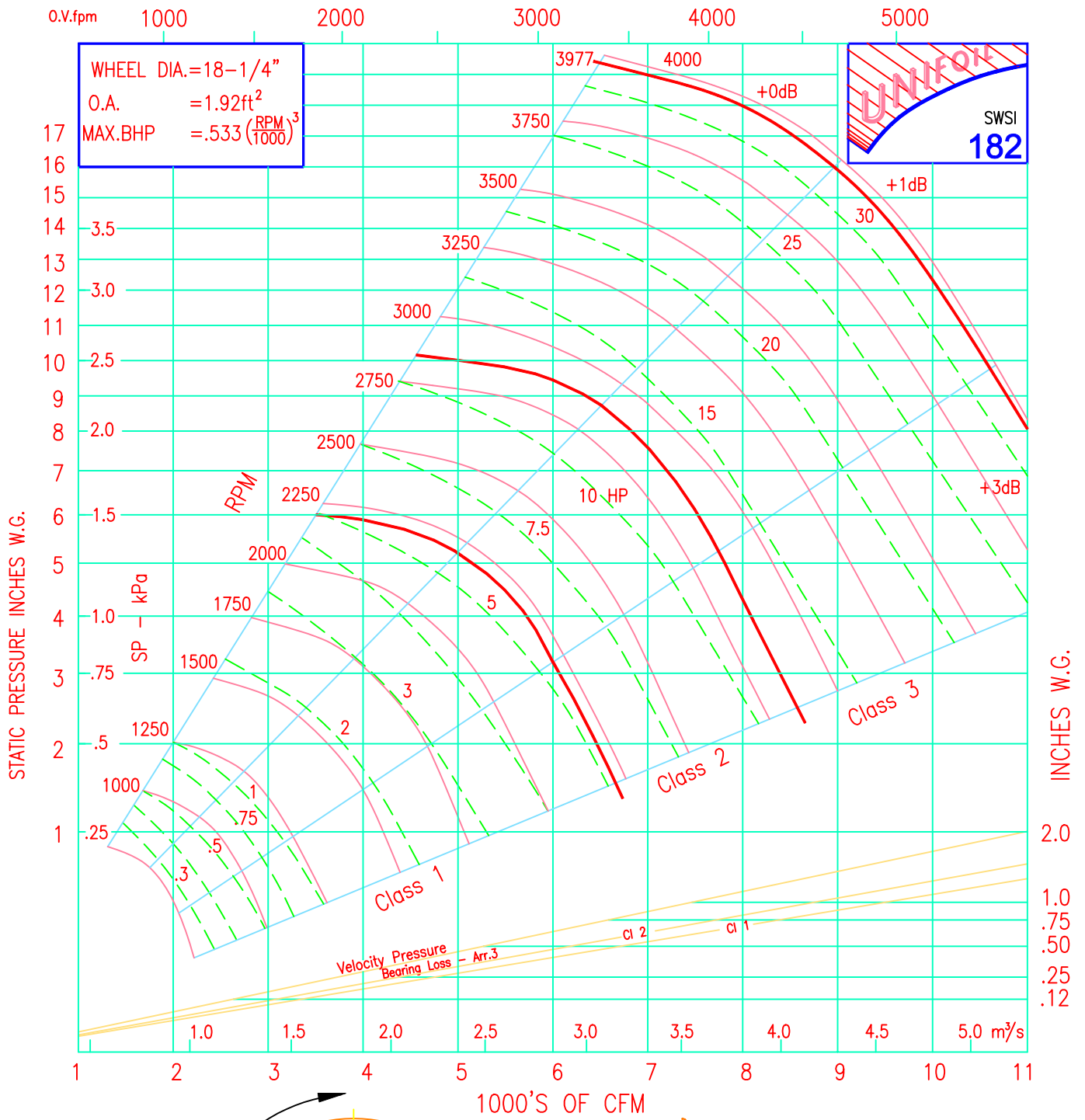
Split pillow block bearings
Access Door – bolted/quick opening or plug type with raised door
Companion Flange (angle companion flange bolted to the fan inlet or outlet flange)
Inlet or Outlet screen heavy gauge wire on 2" centres OSHA standard is also available
Above 300°F, Shaft cooling wheel required
Above 500°F, high temperature aluminum paint required
Above 800°F, stainless steel rotor is required
Above 1000°F, custom design is available
Vibration Isolation - Spring - Rubber-In-Shear
Inlet box
Inlet box dampers
Unitary base
Inertia base with vibration isolators
Spark Resistant Construction –
 AMCA "A" All parts of the fan in contact with the air stream non-ferrous material
 AMCA "B" Non-ferrous wheel and aluminum rubbing ring where shaft passes through
 Housing with shaft seal
 AMCA "C" Aluminum inlet cone and Aluminum rubbing ring
Variable inlet vanes



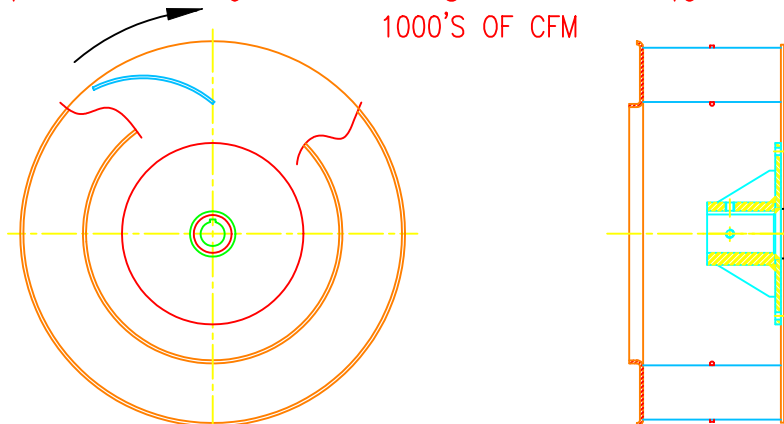
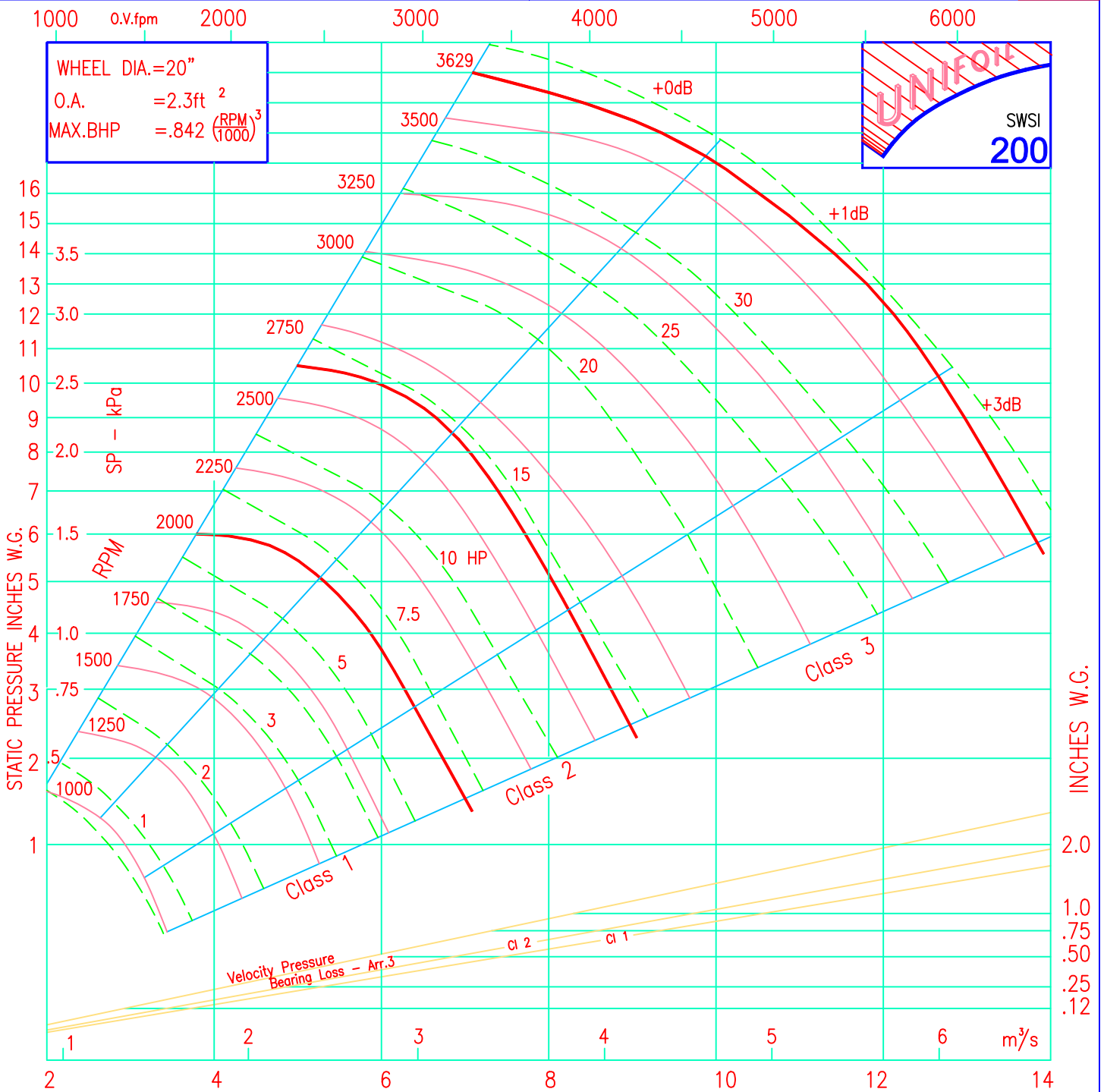




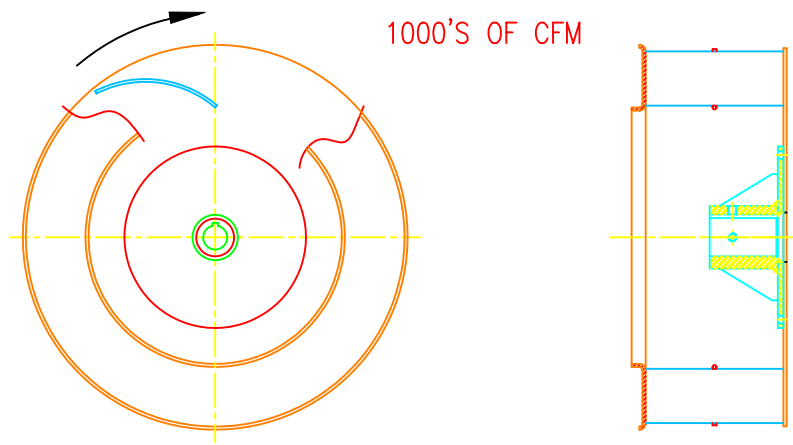
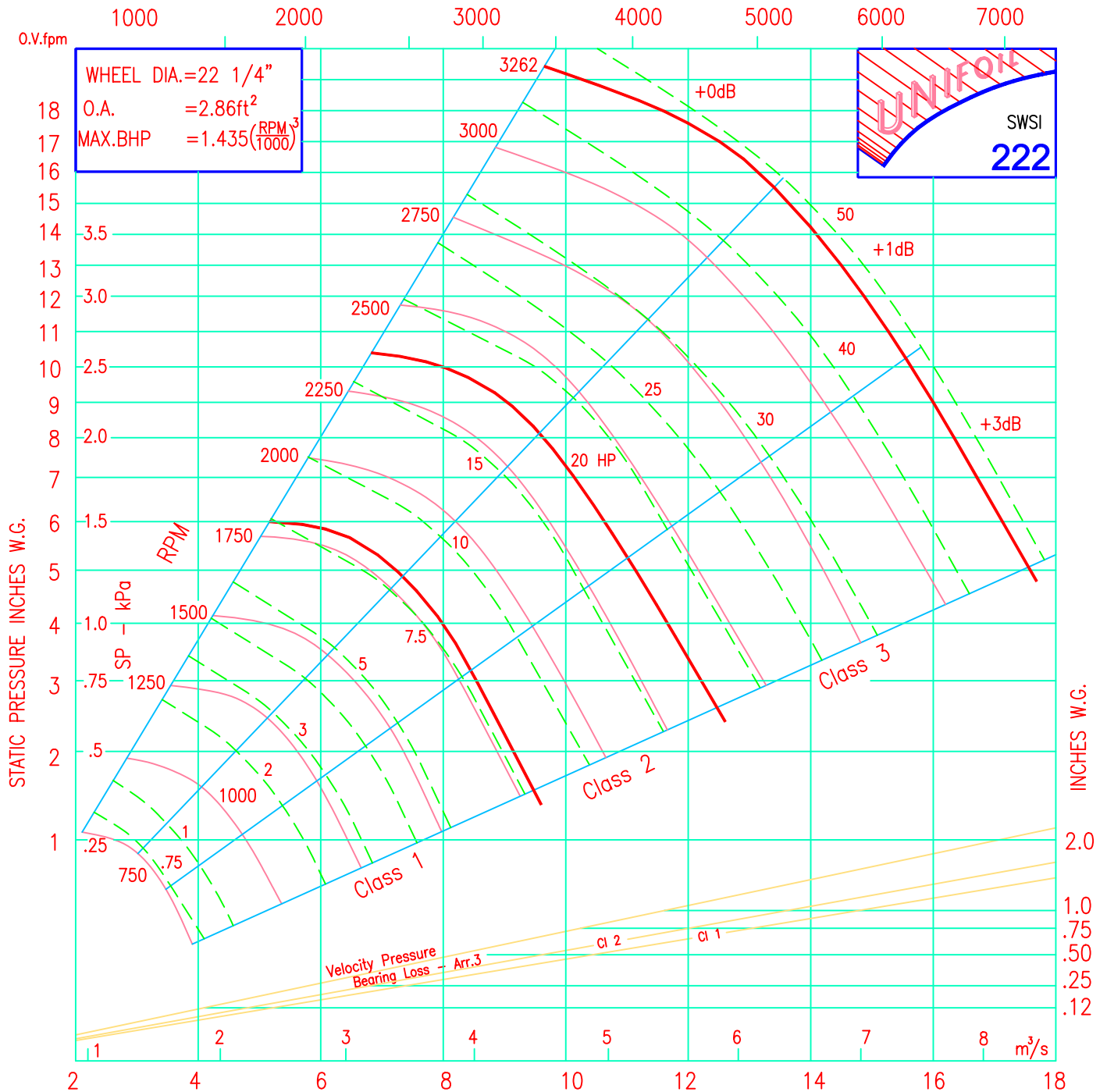




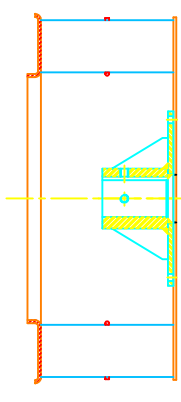
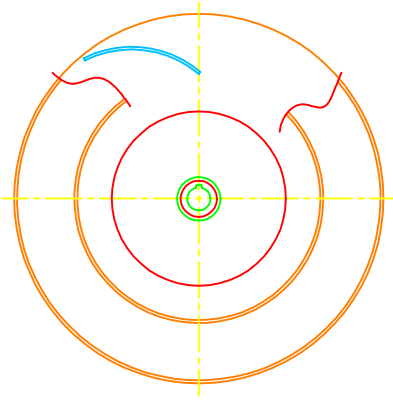
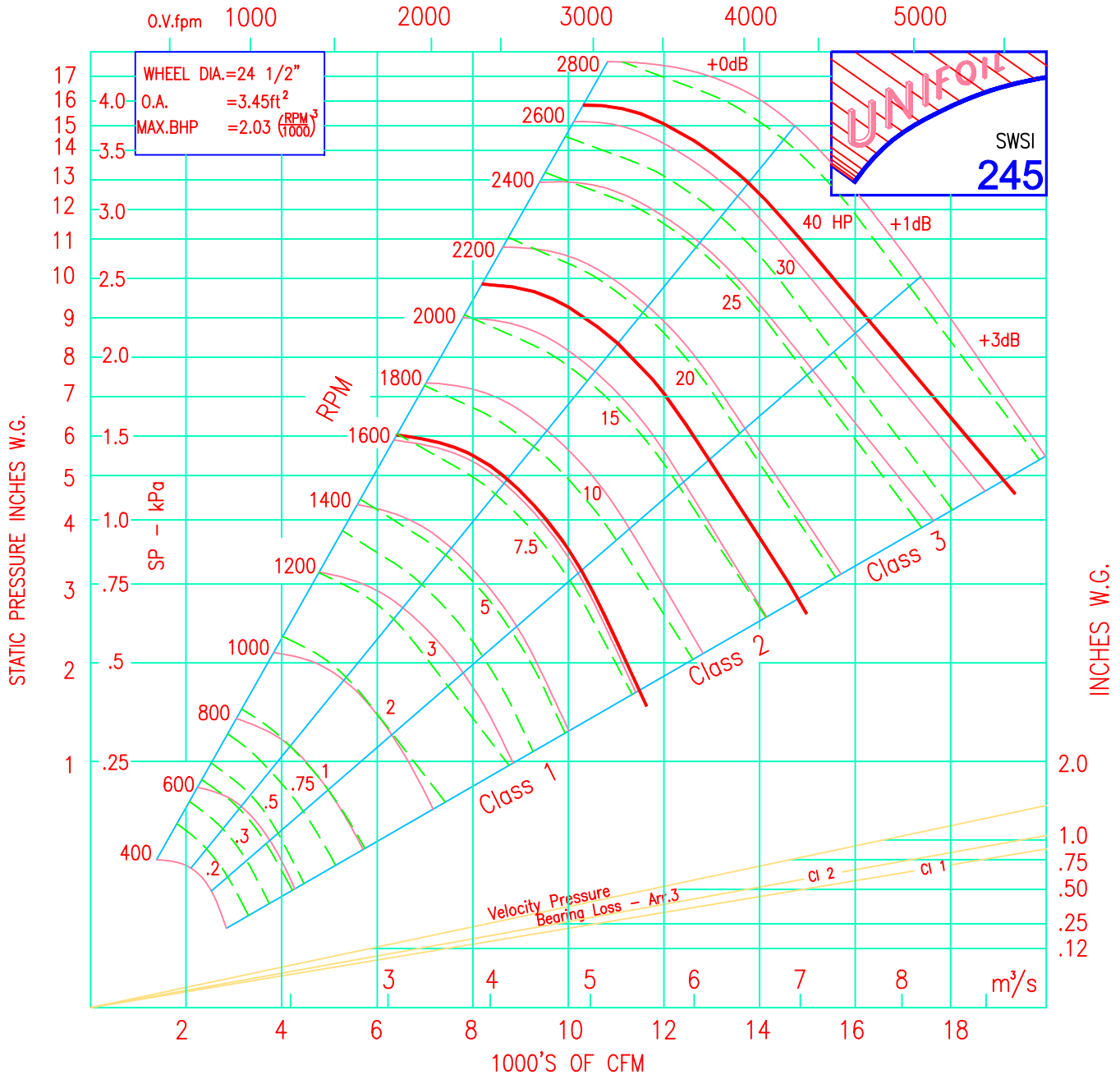
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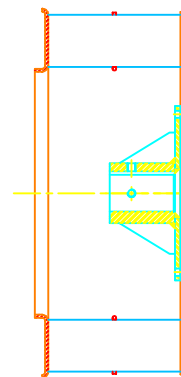
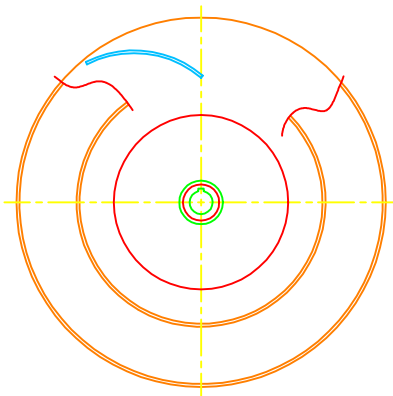
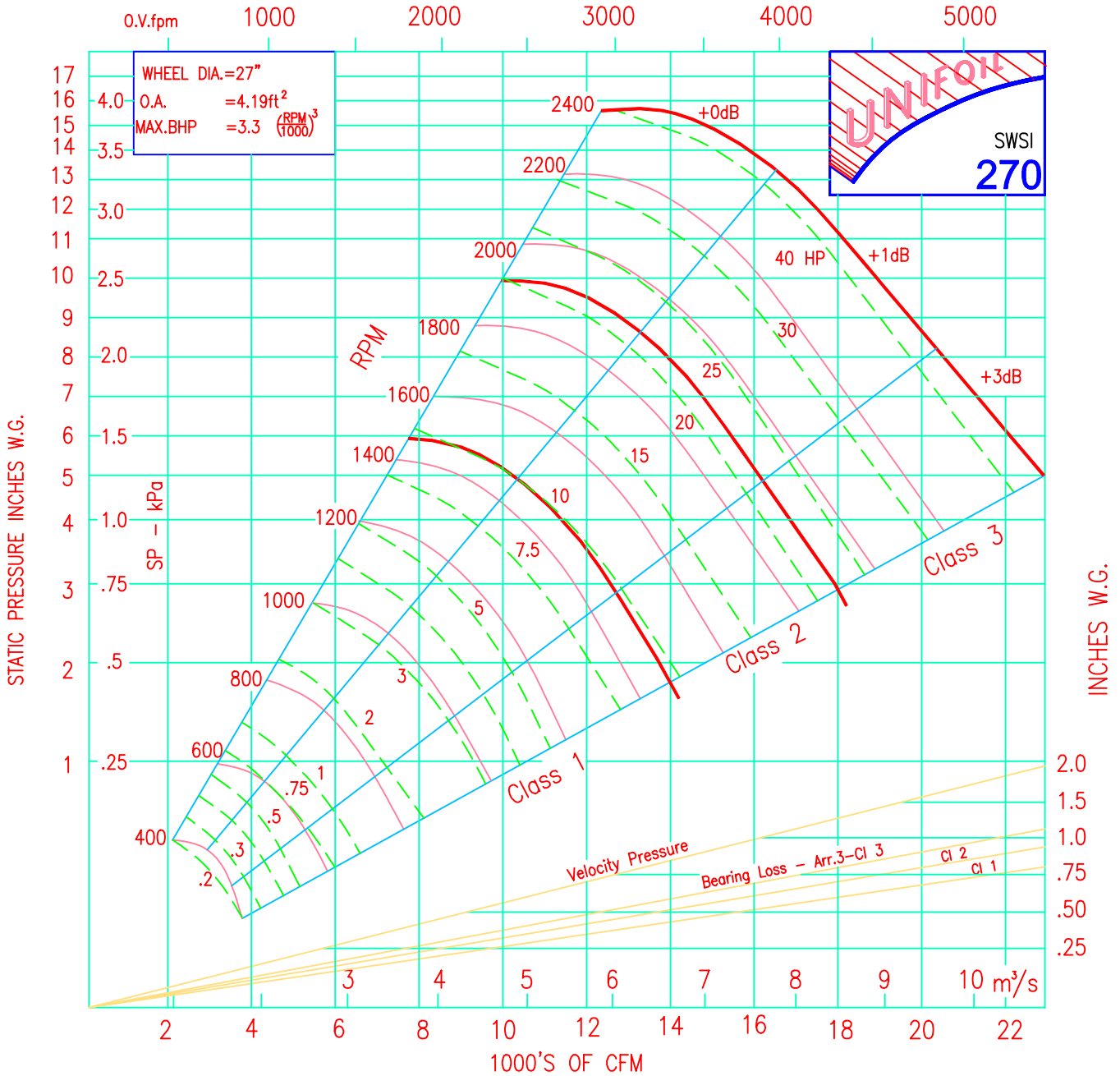


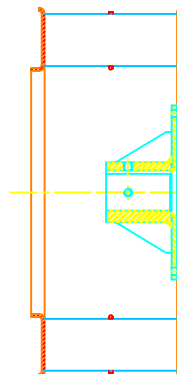
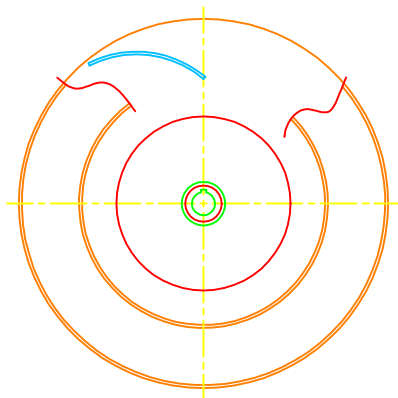
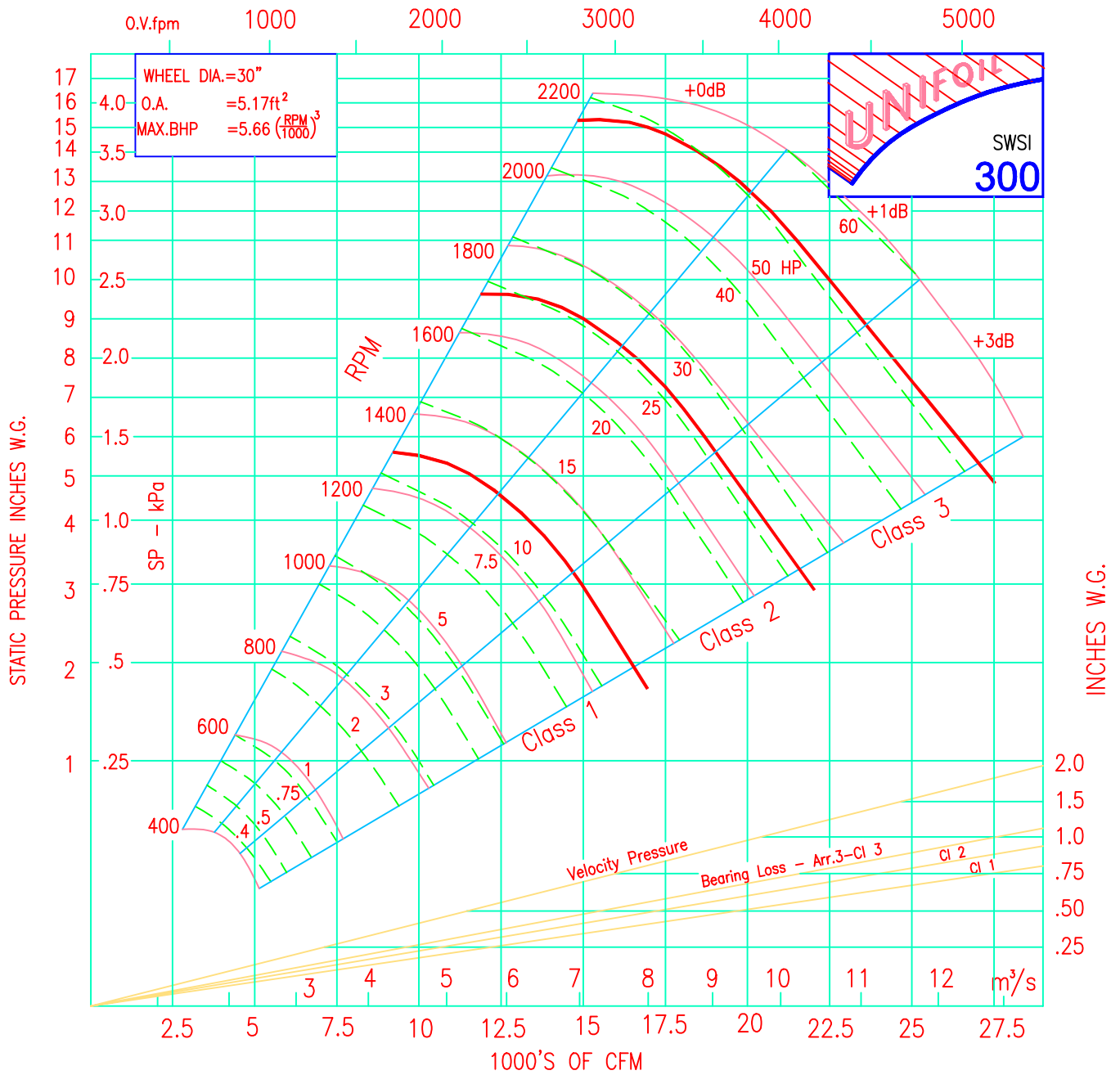
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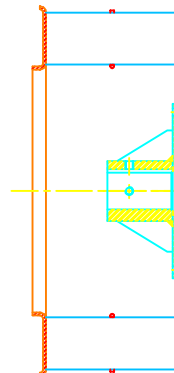
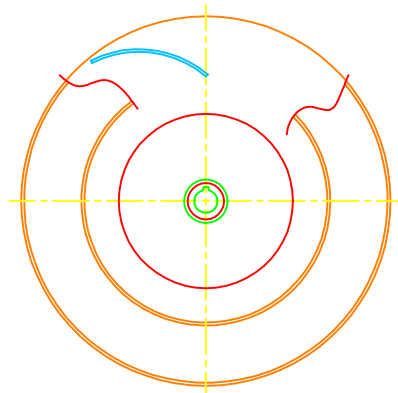
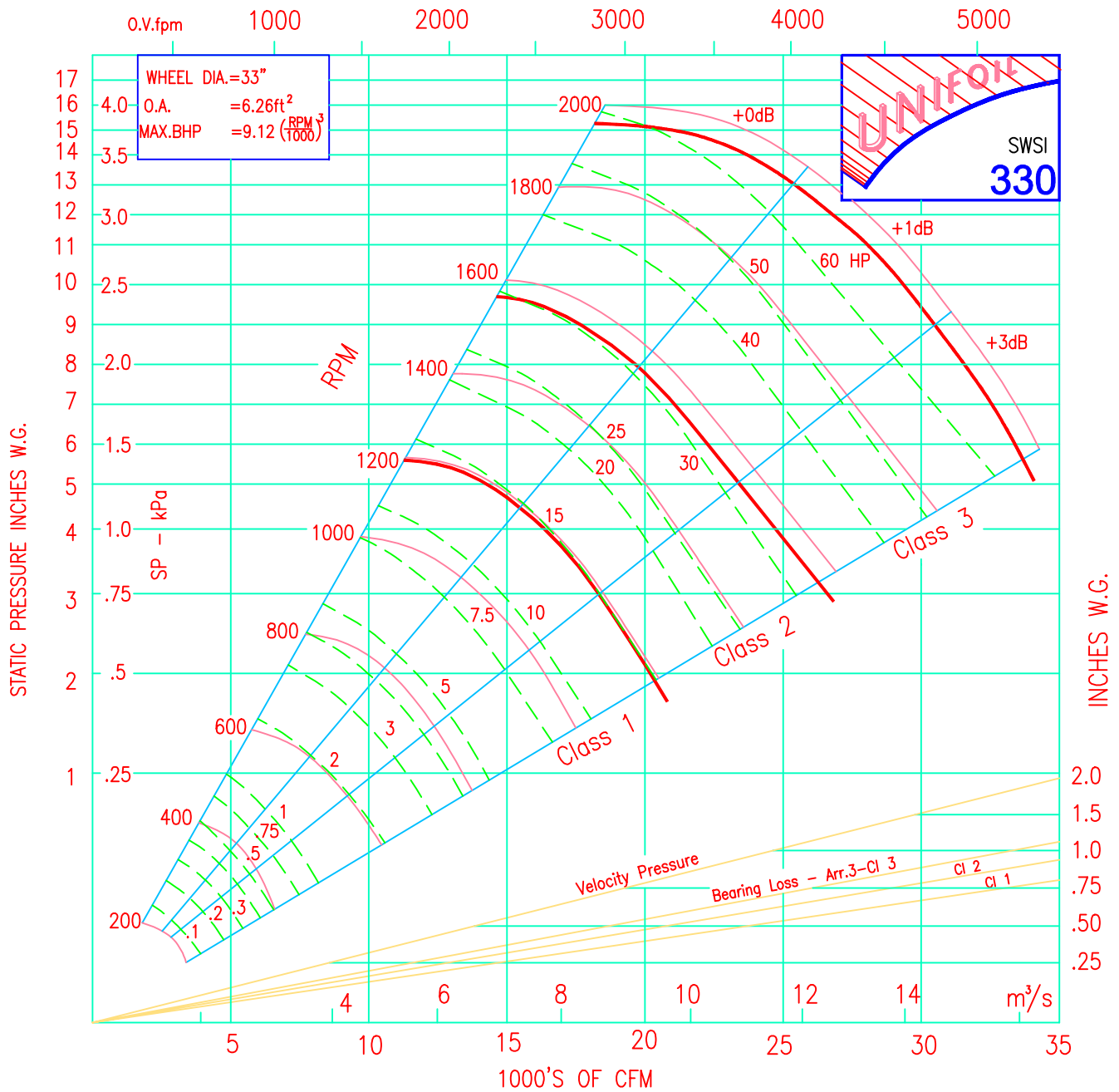


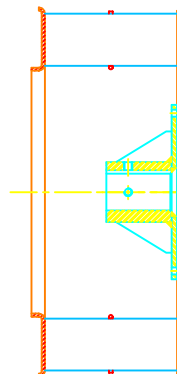
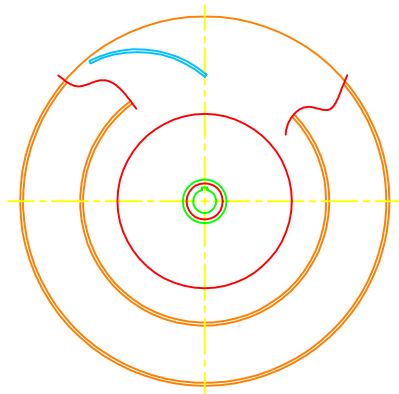
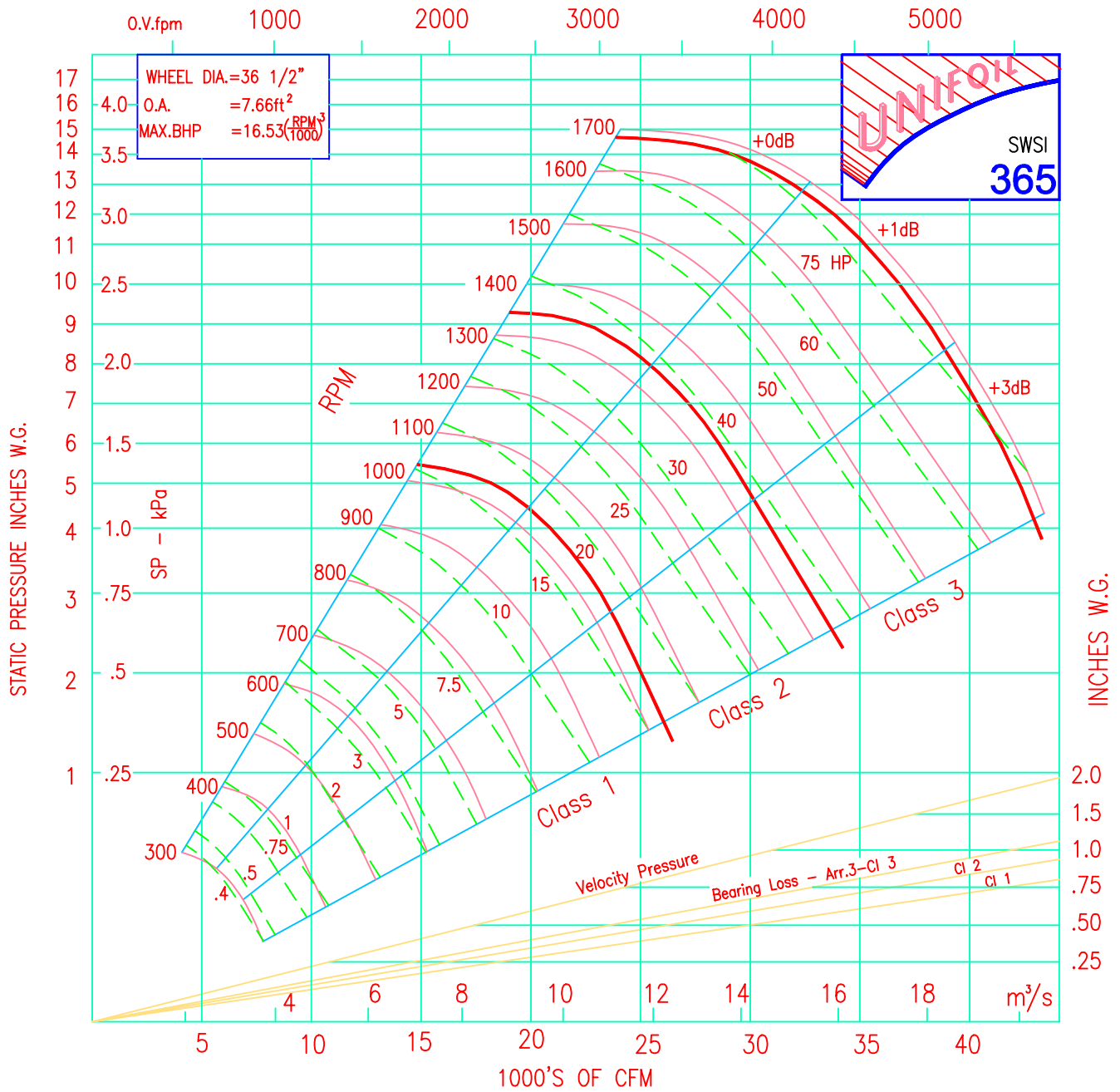
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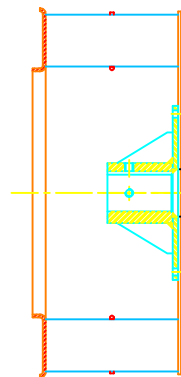
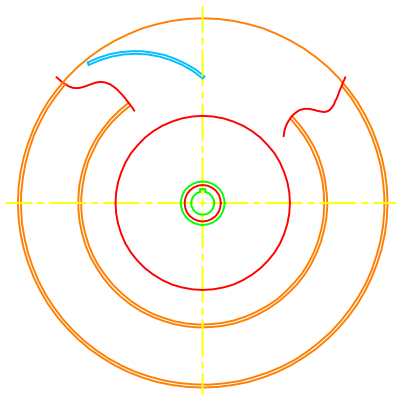
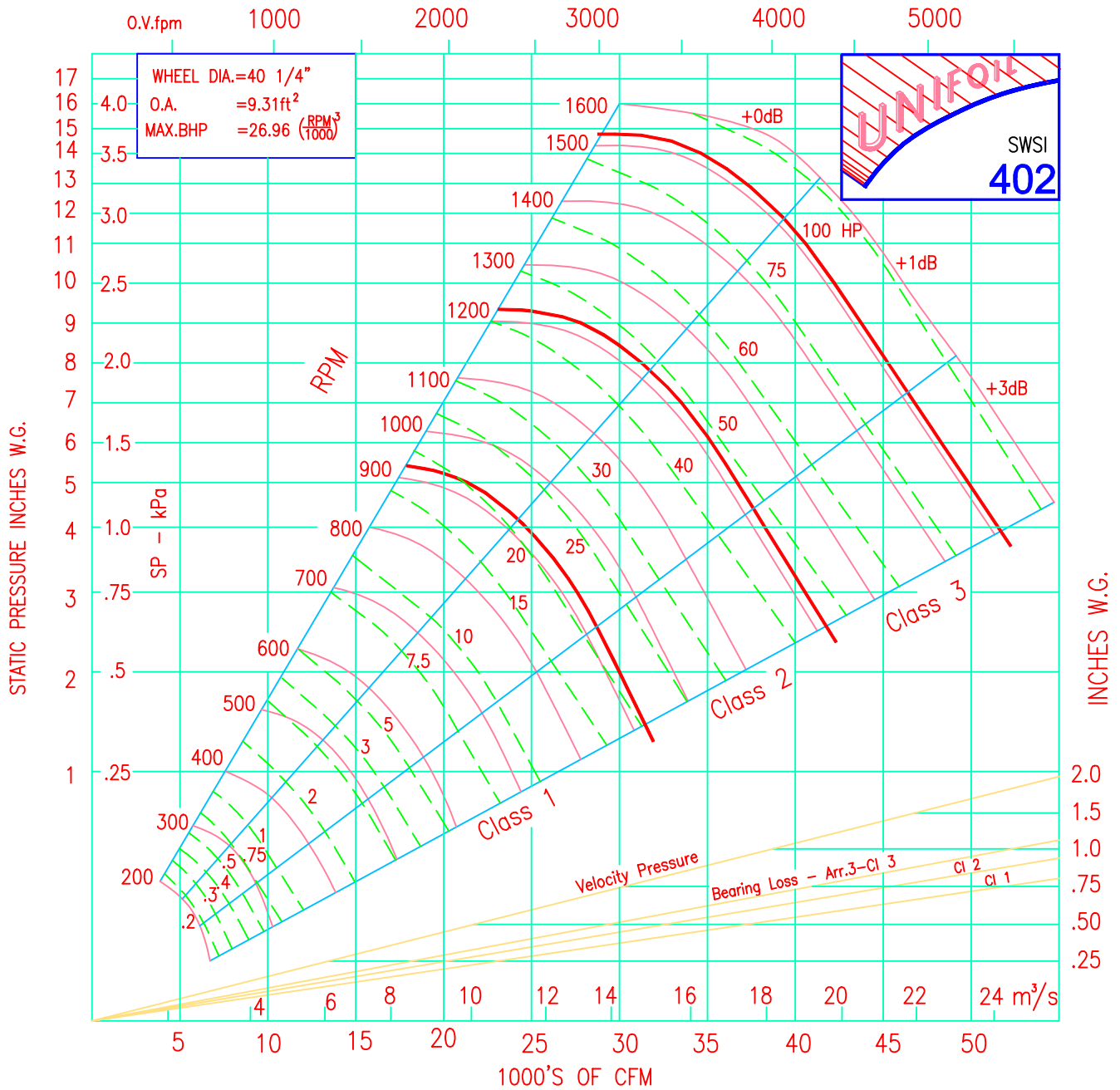


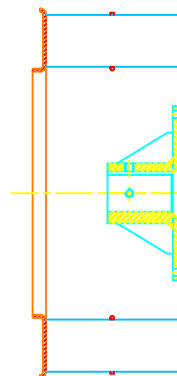
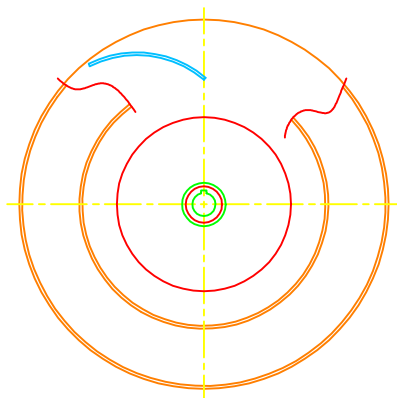
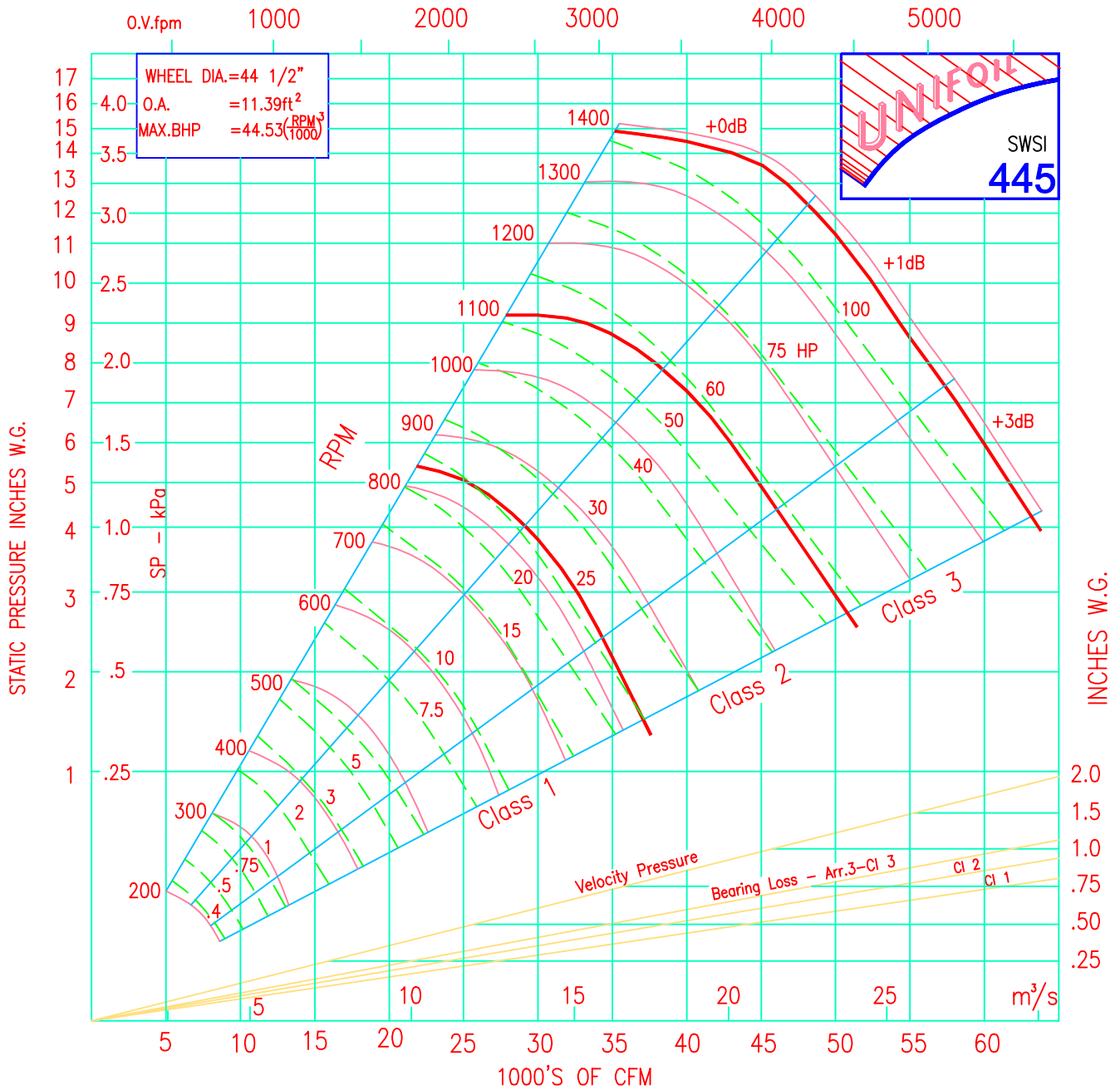


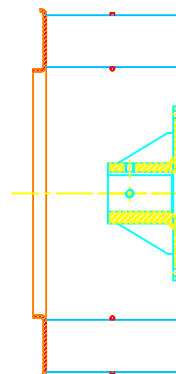
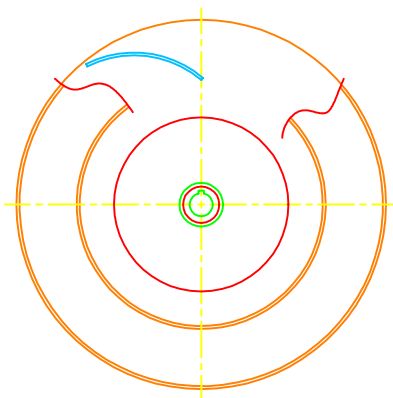
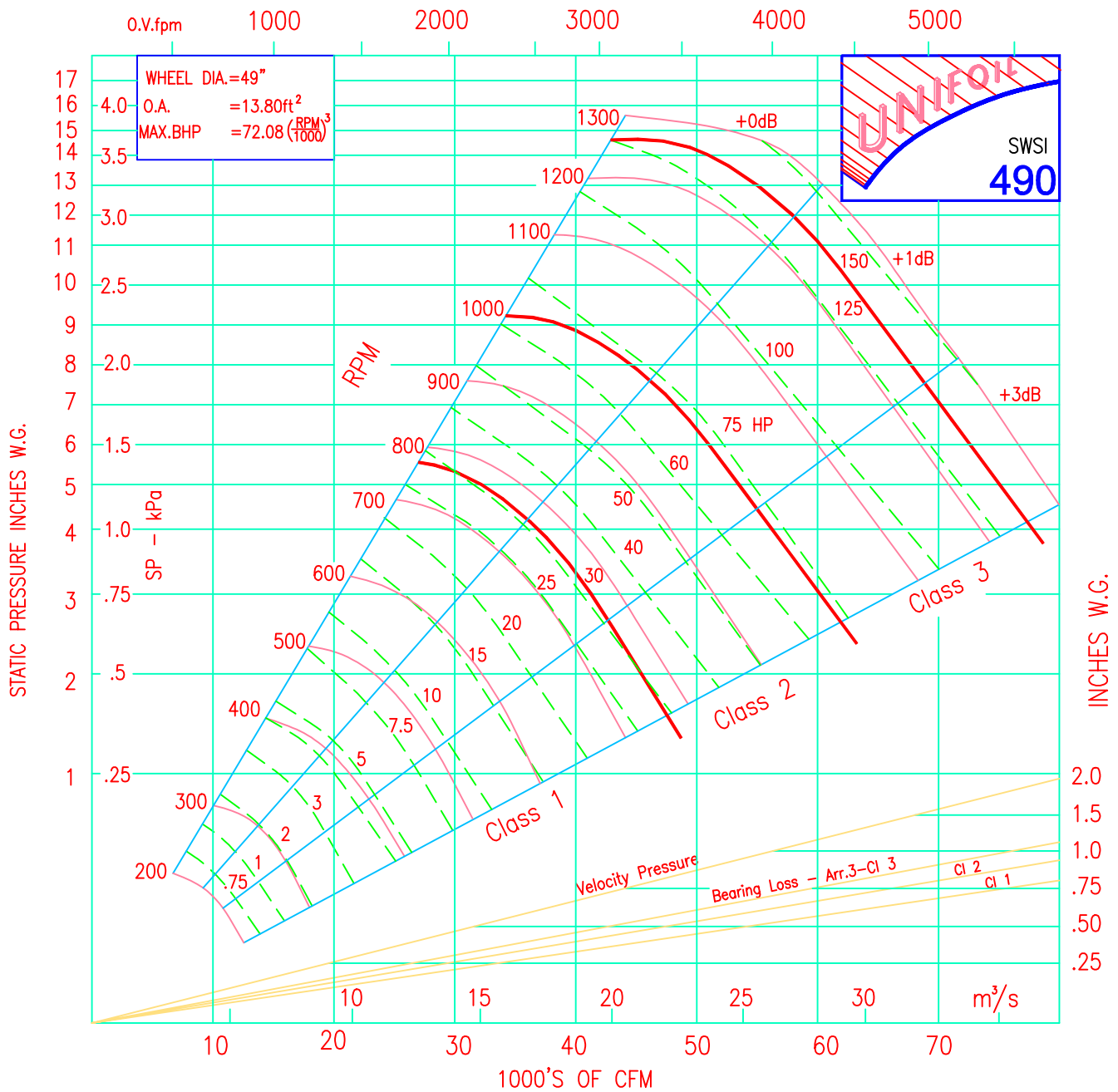


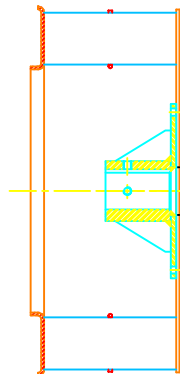
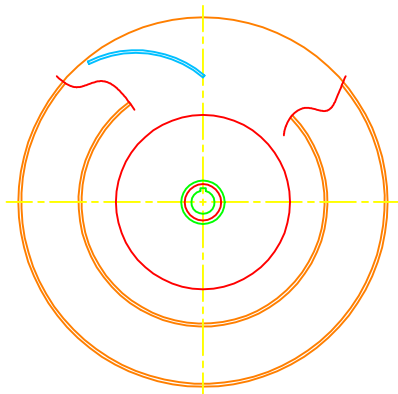
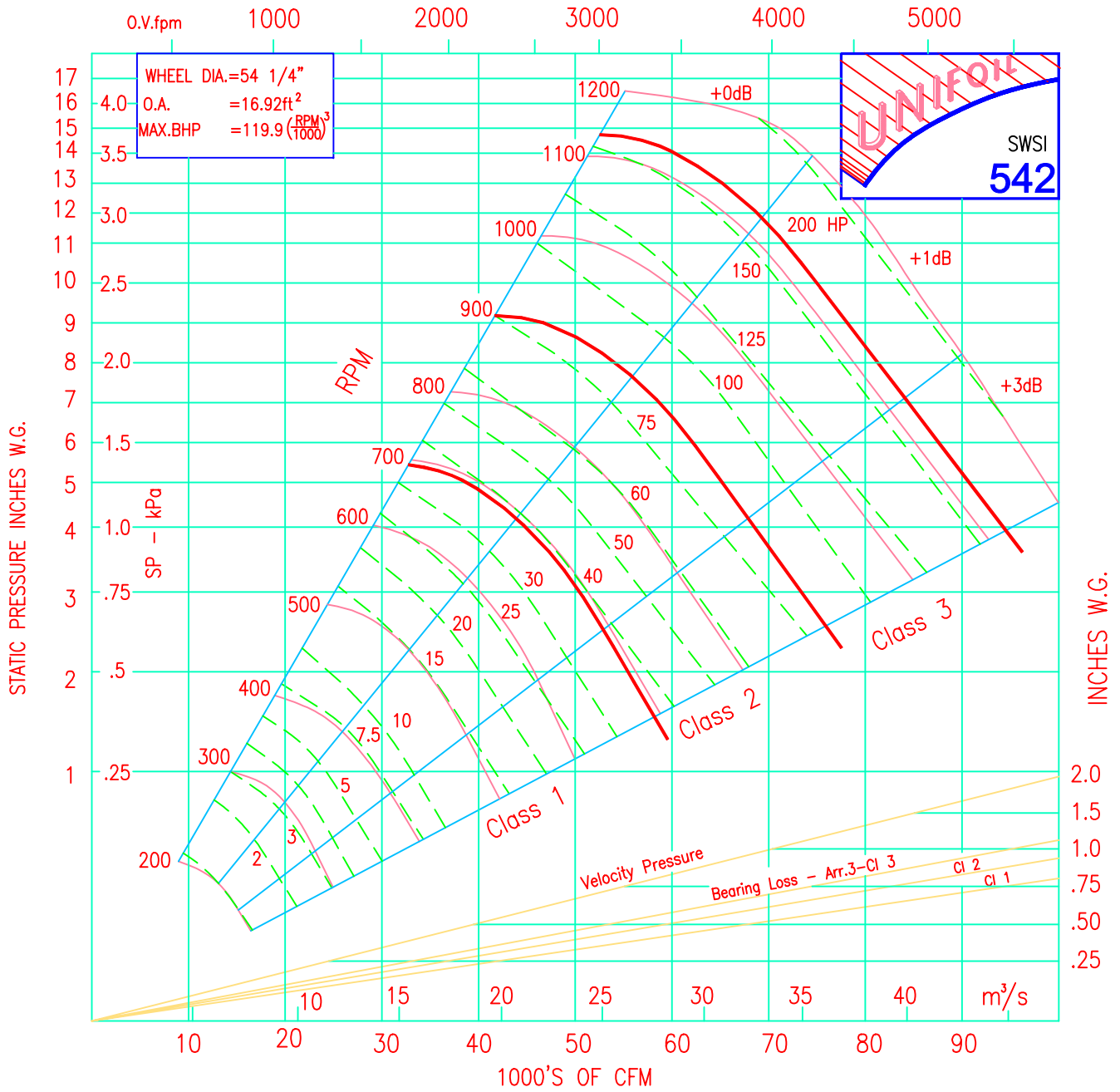


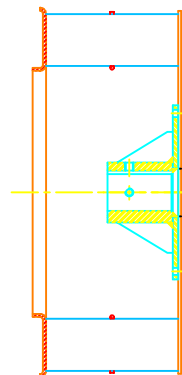
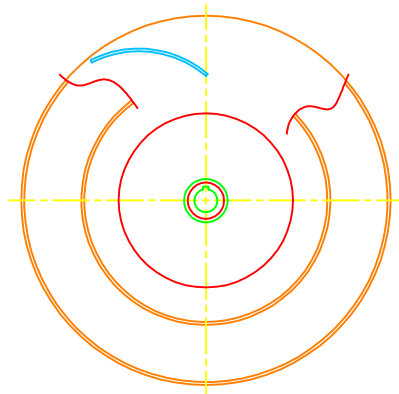
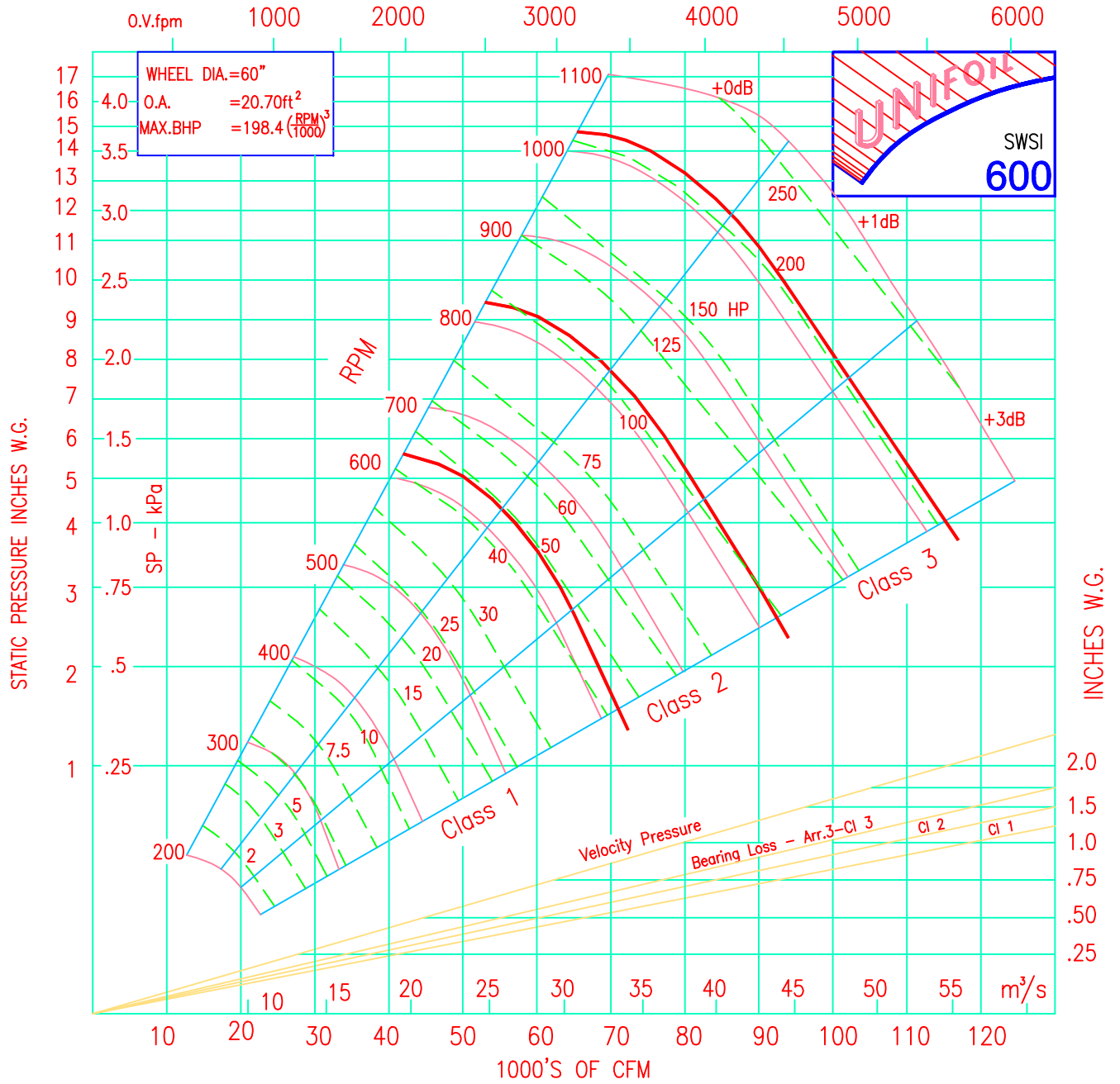


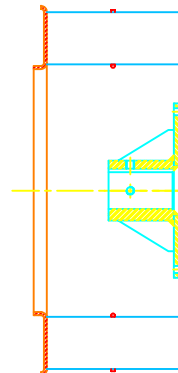
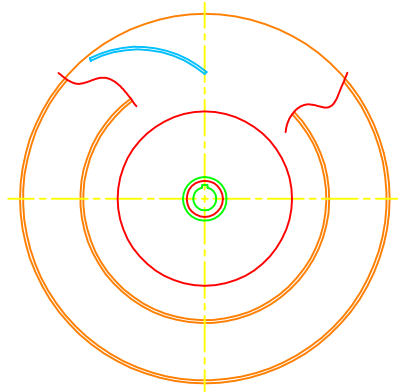
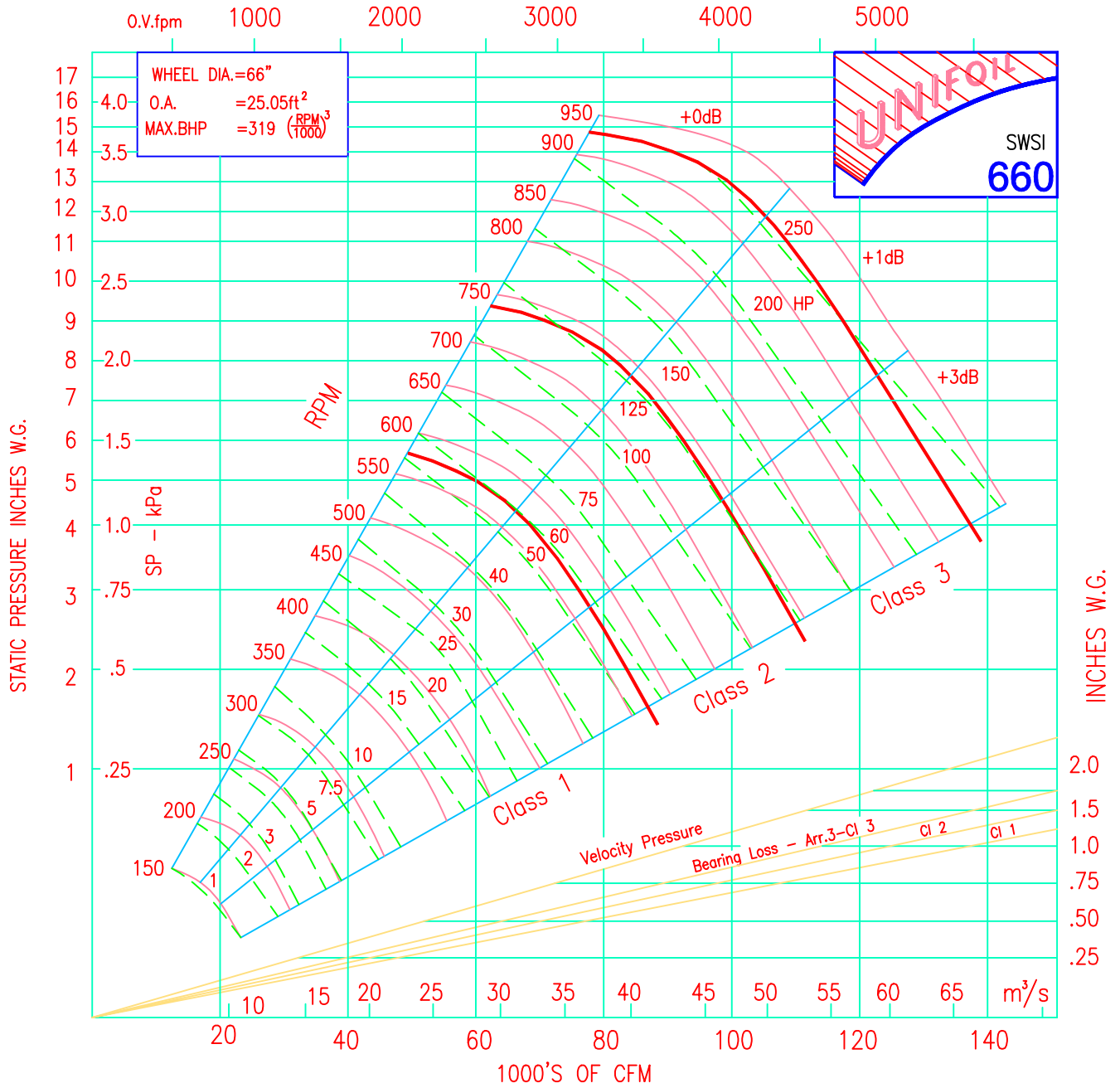


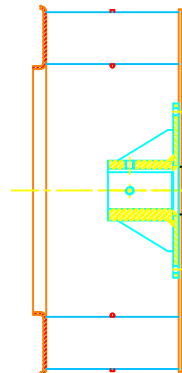
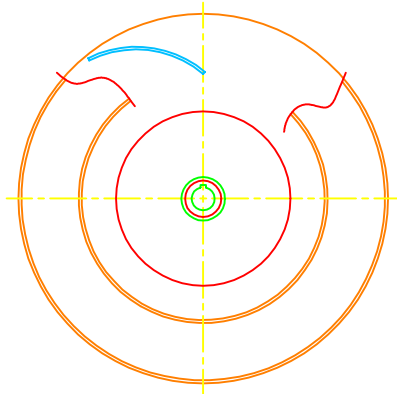
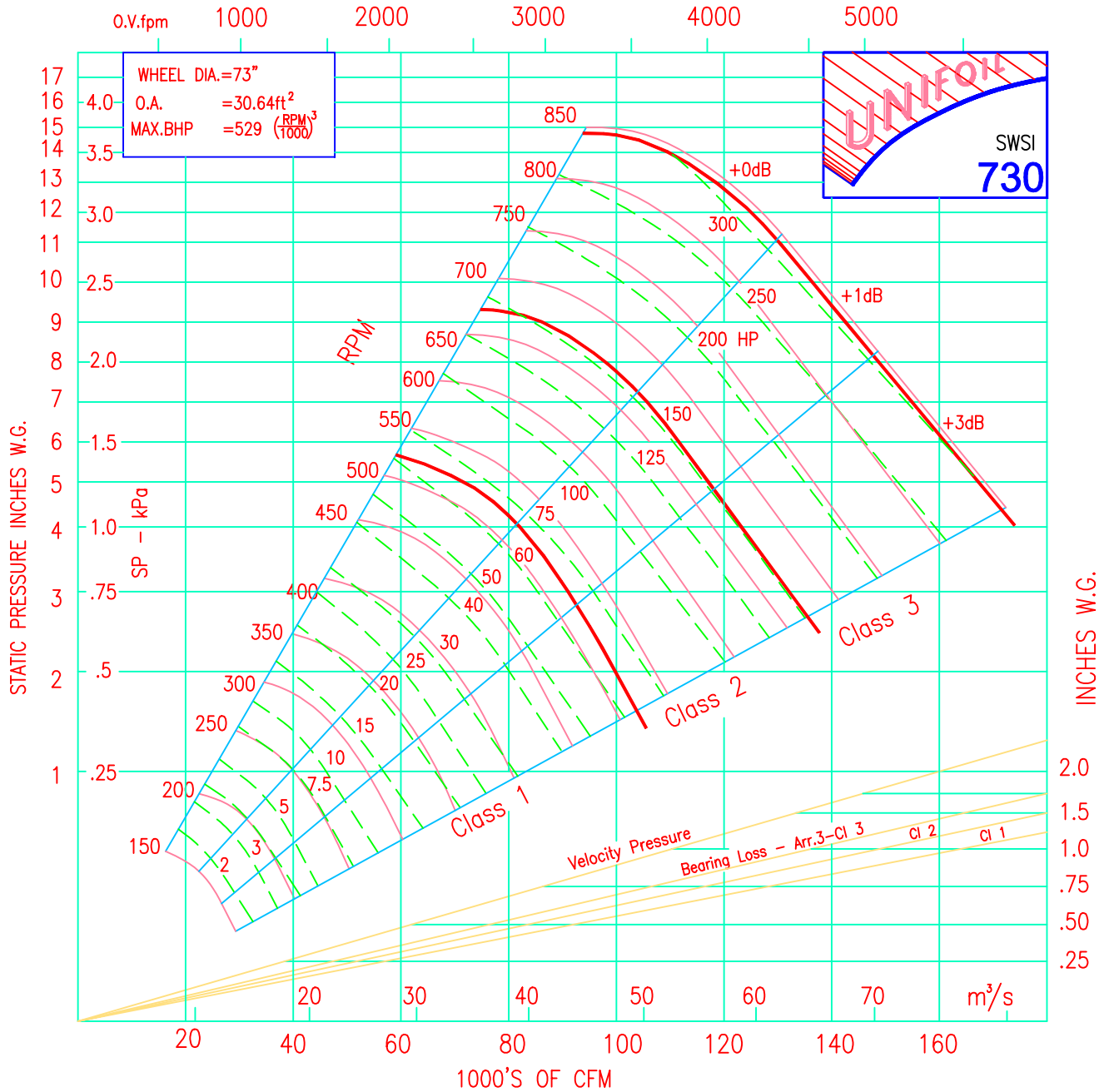


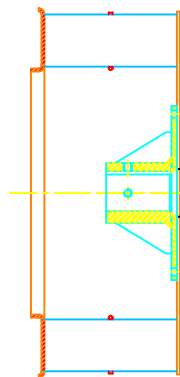
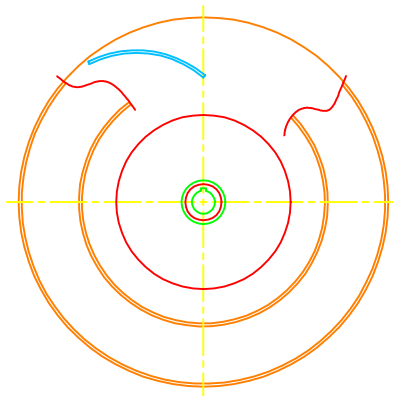
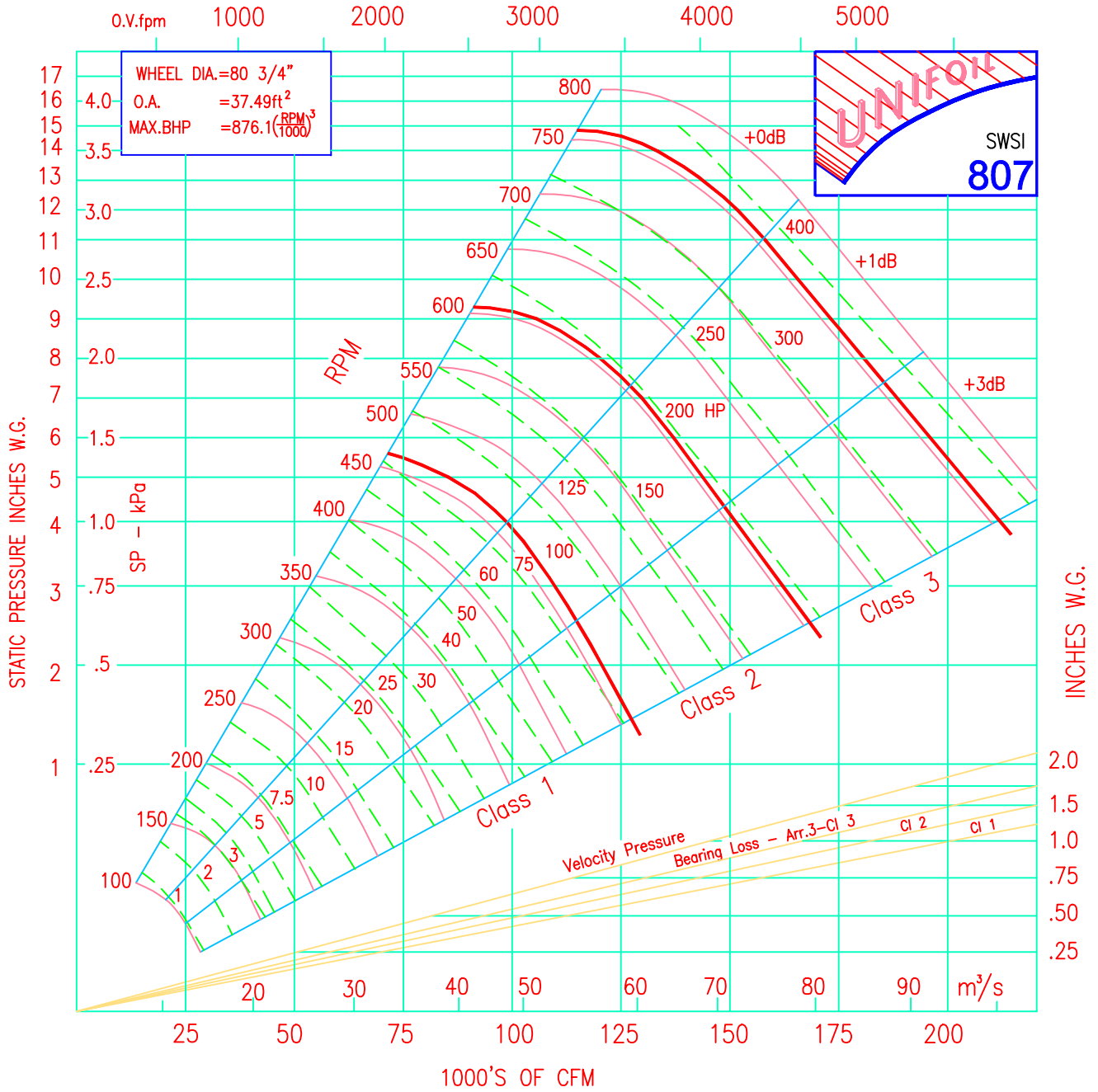


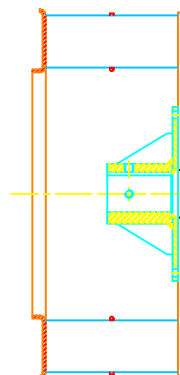
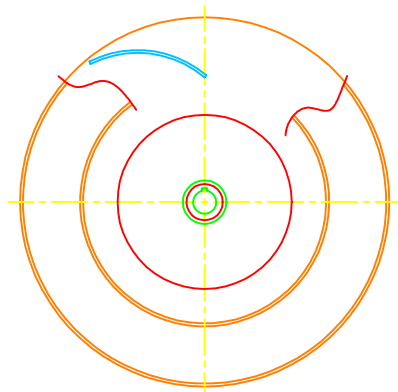
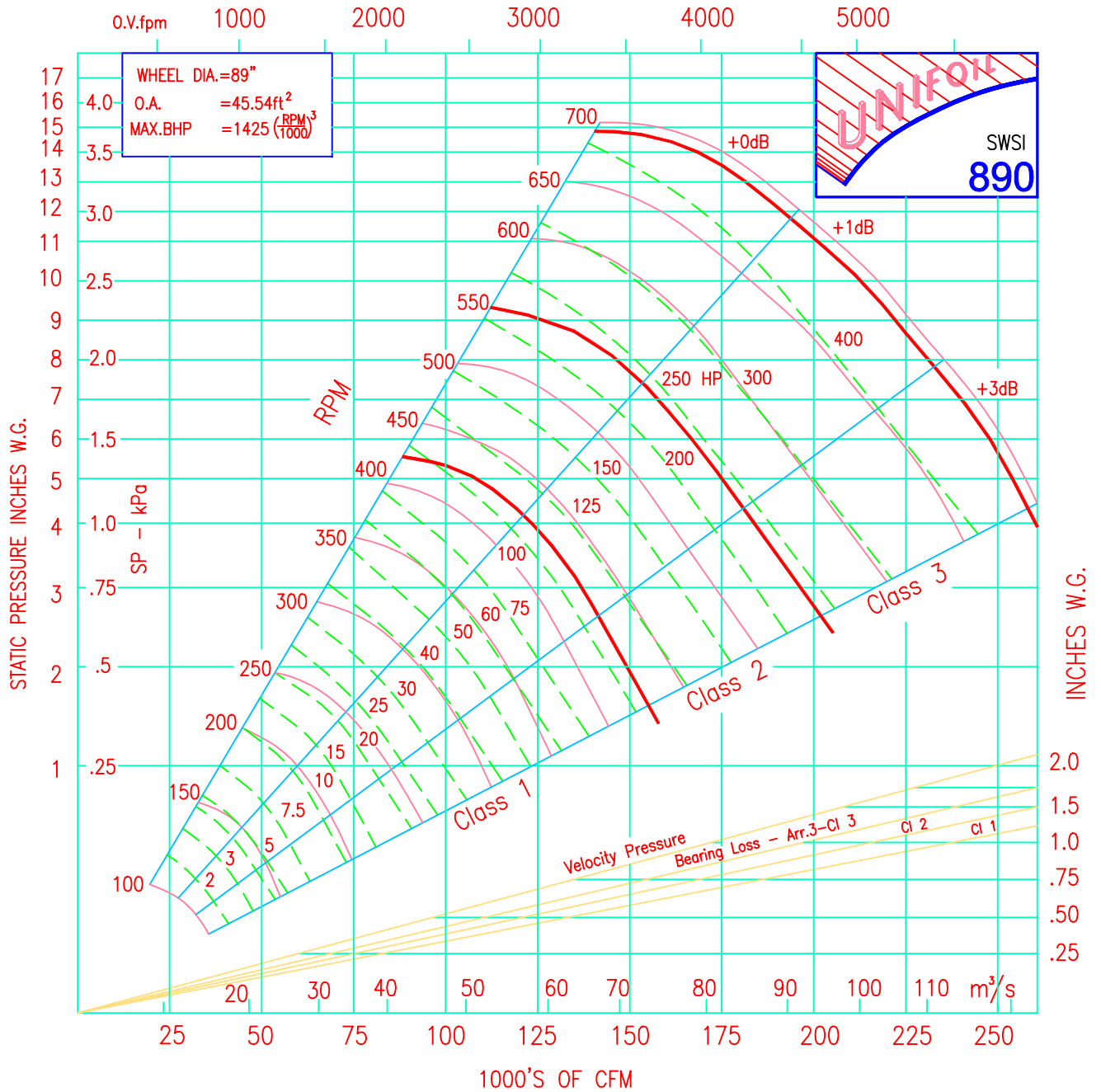


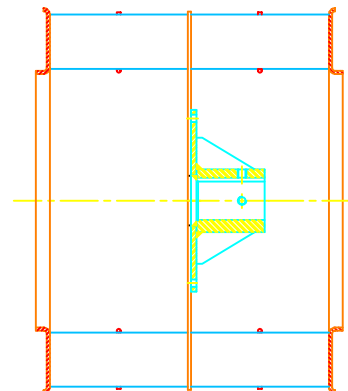
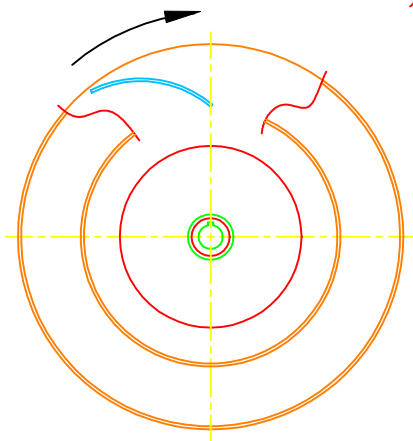
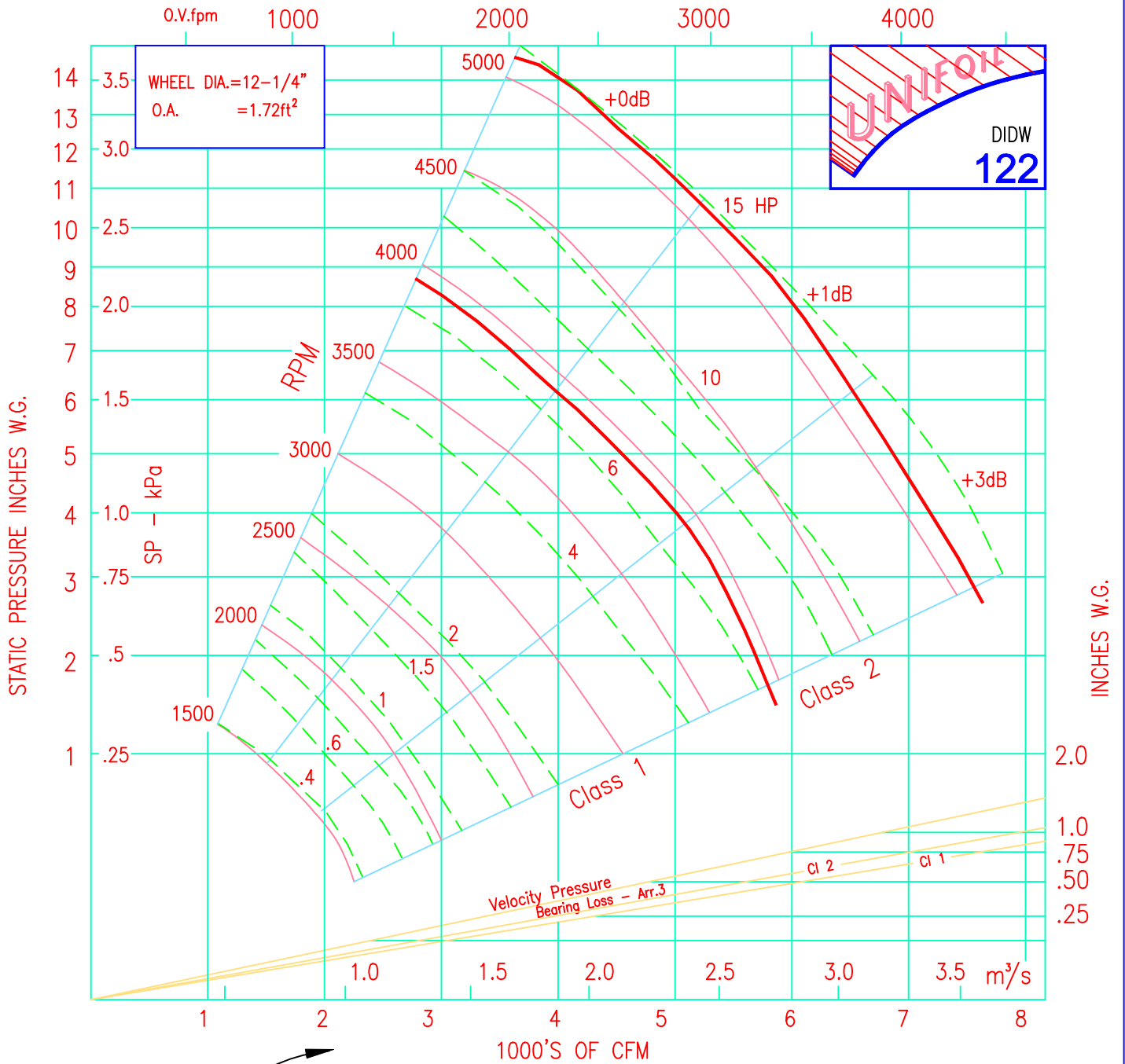




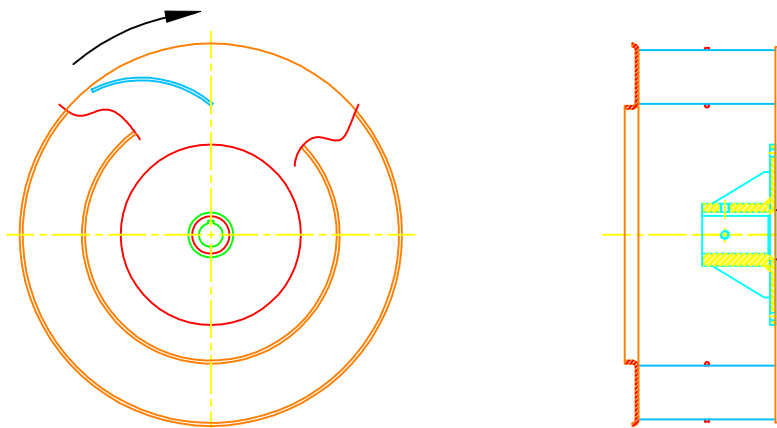
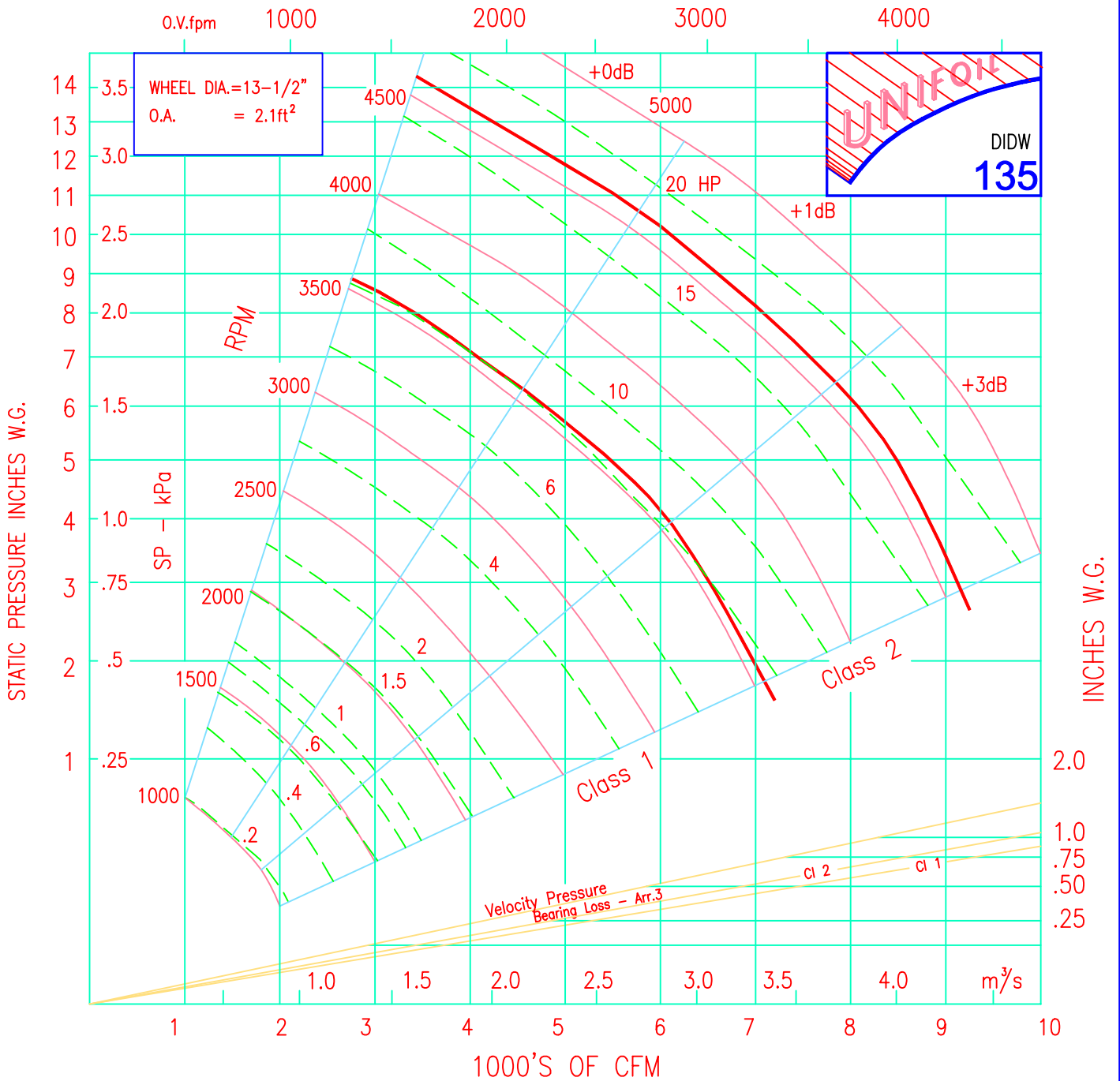




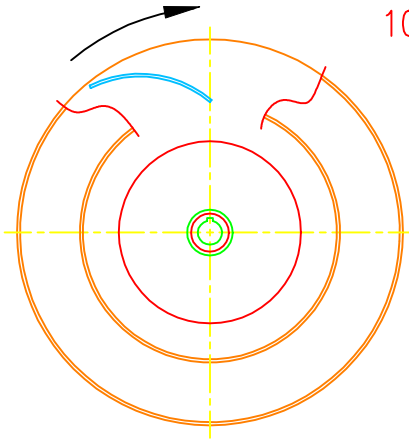
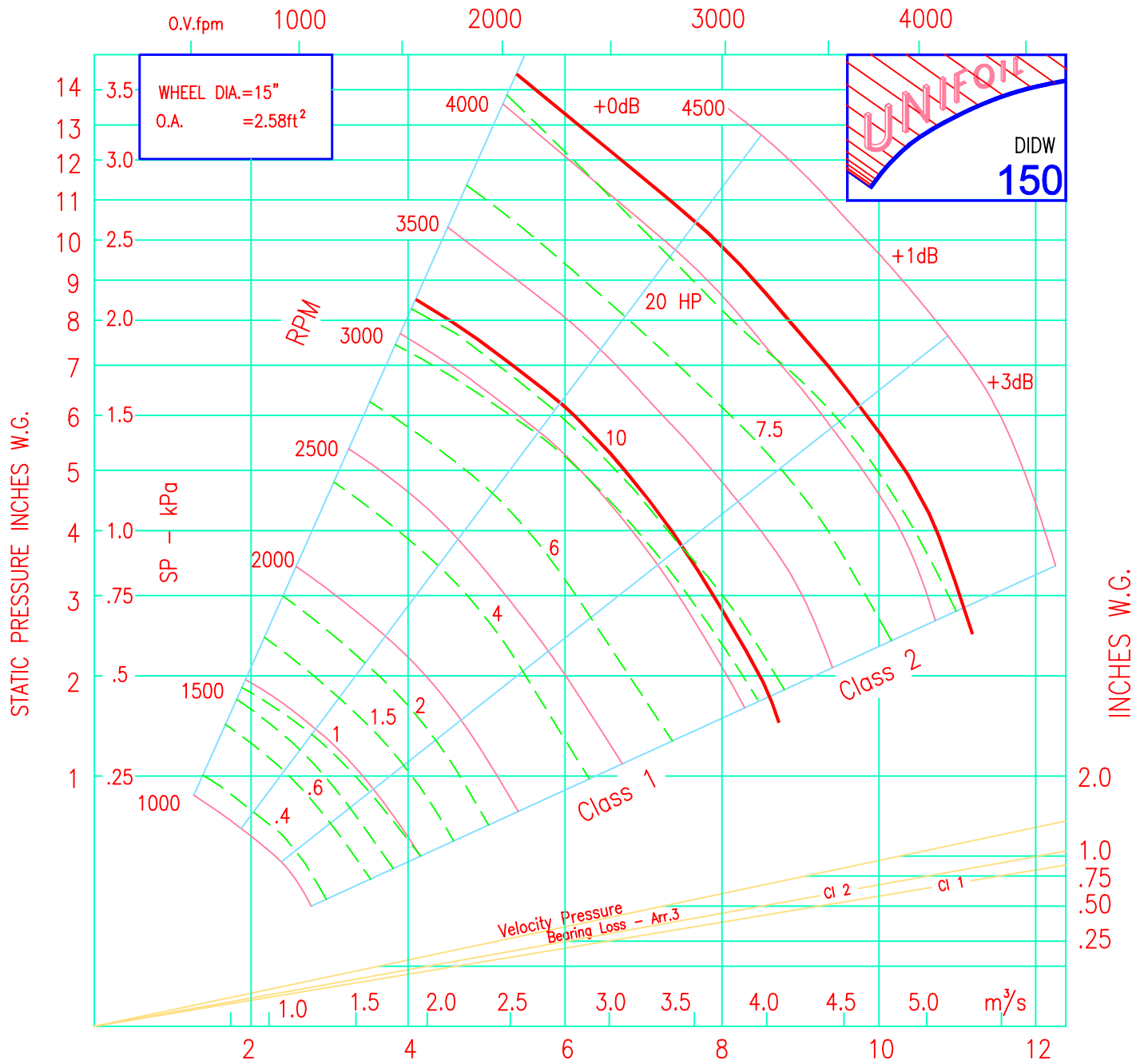




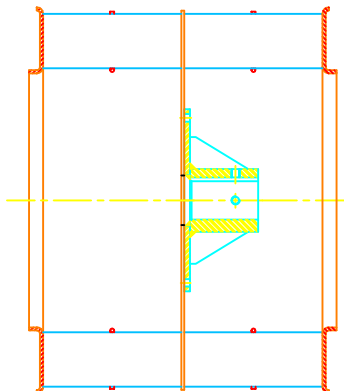
"CLOCK WISE" WHEEL SHOWN



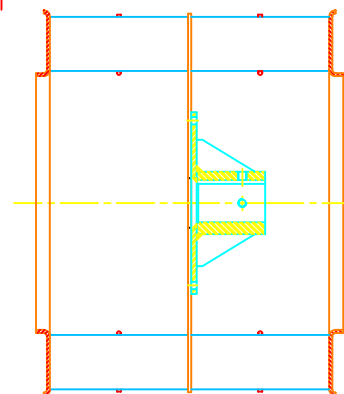
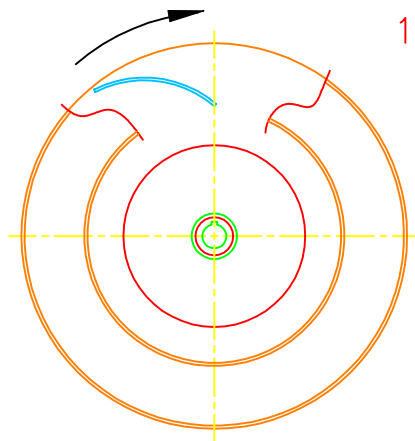
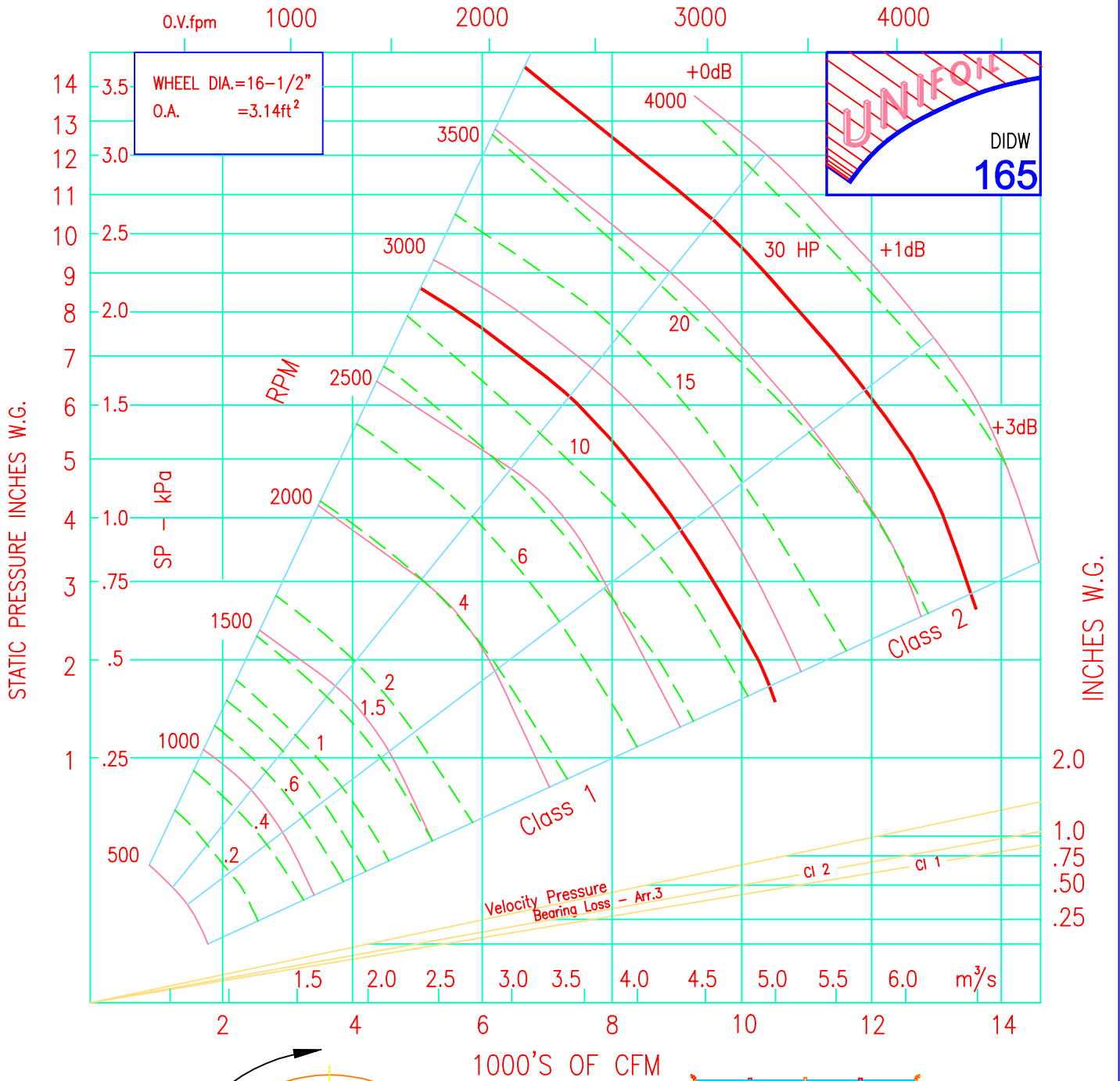
"CLOCK WISE" WHEEL SHOWN



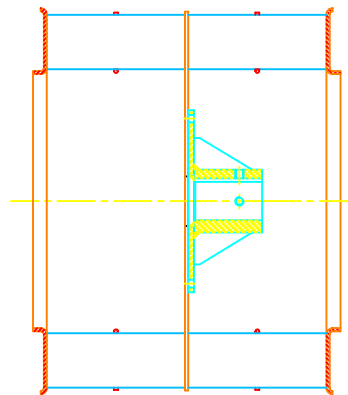
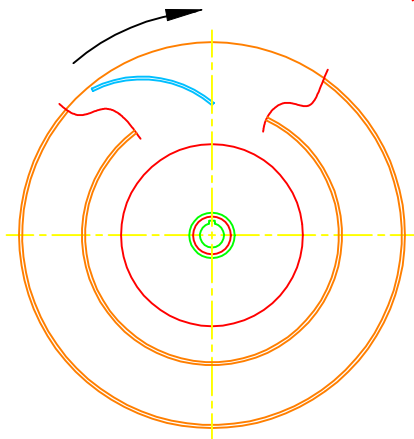
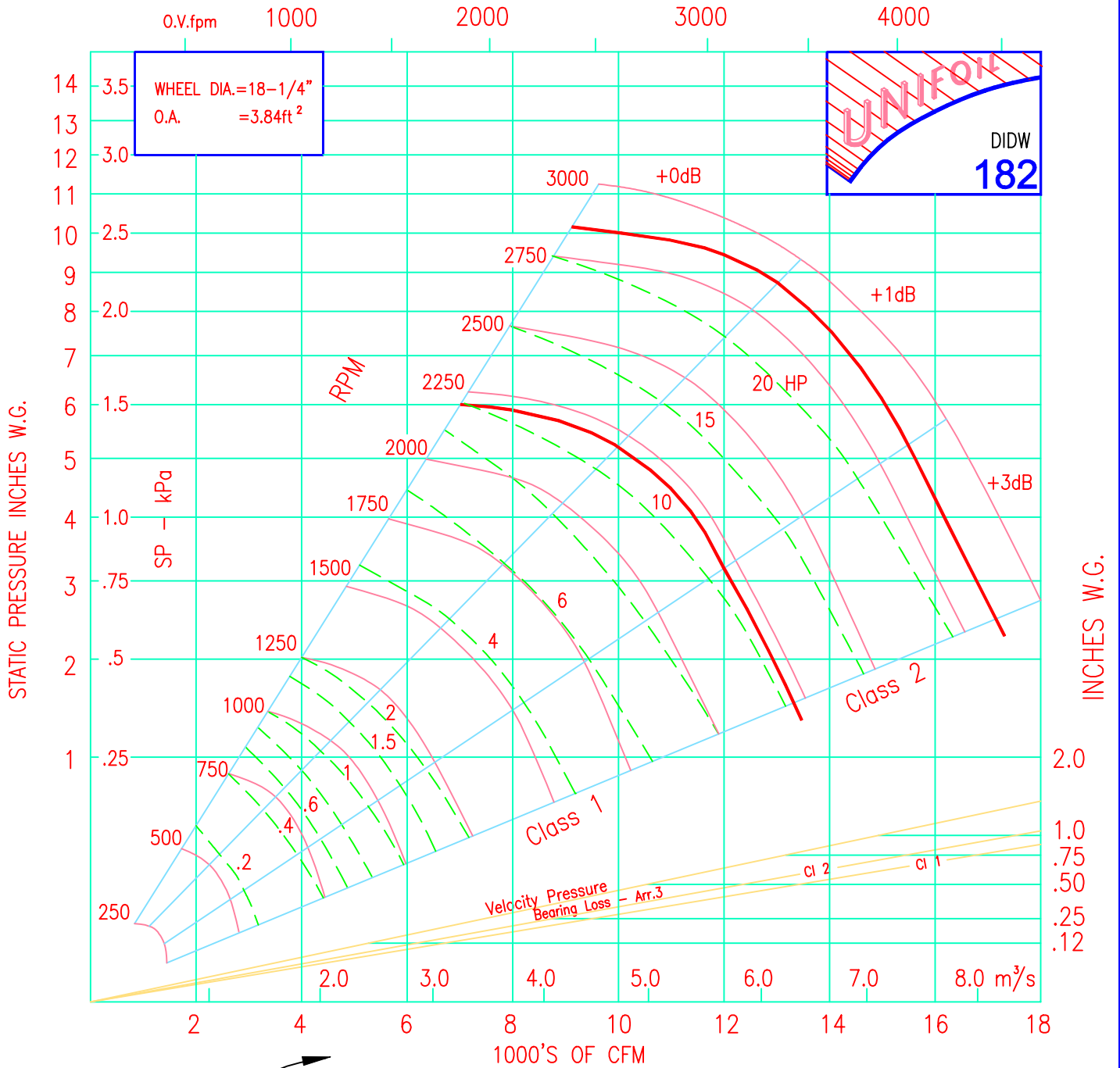
1000'S OF CFM



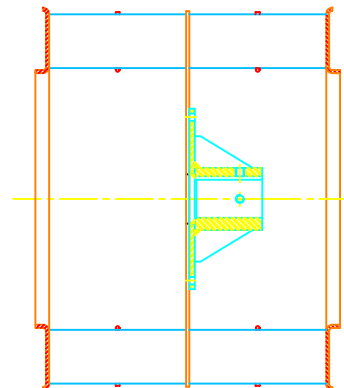
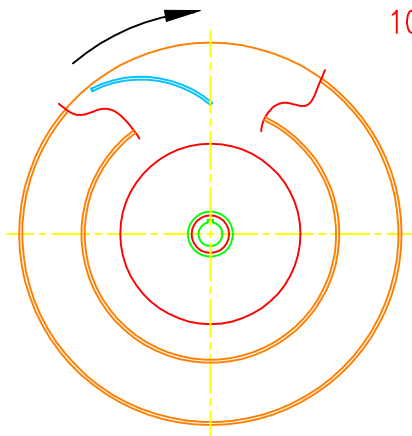
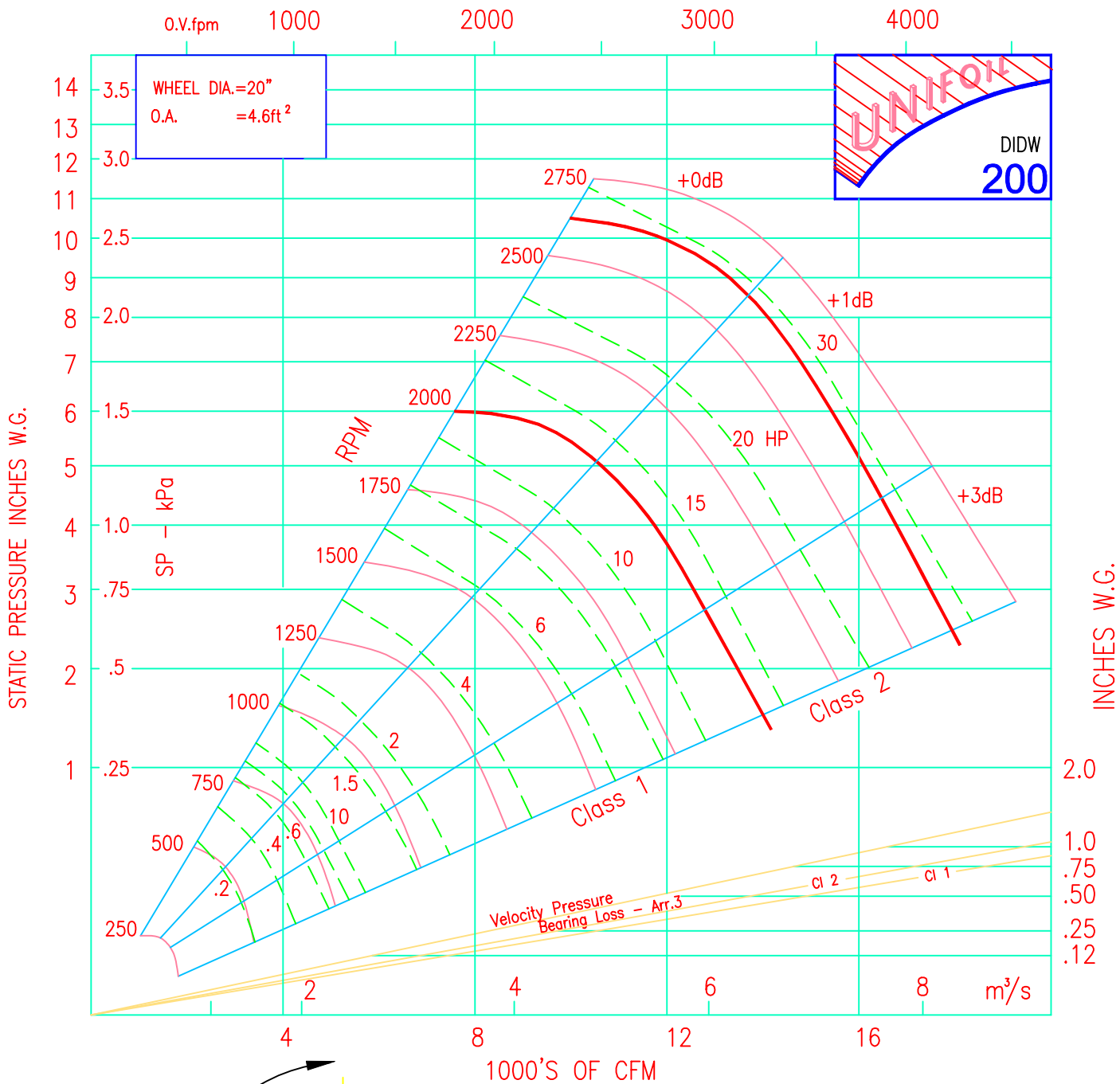
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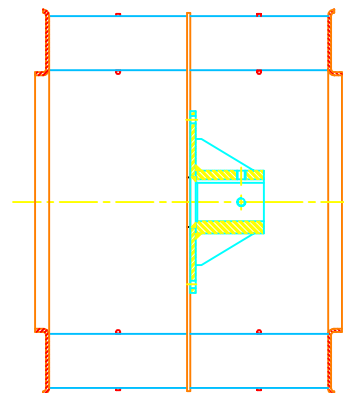
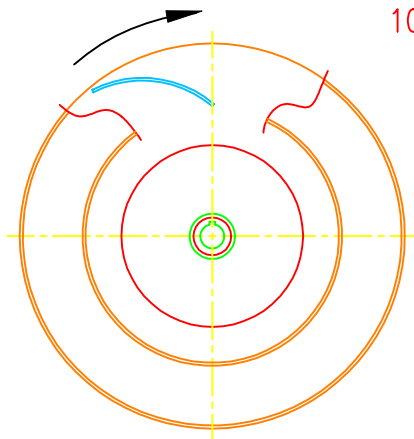
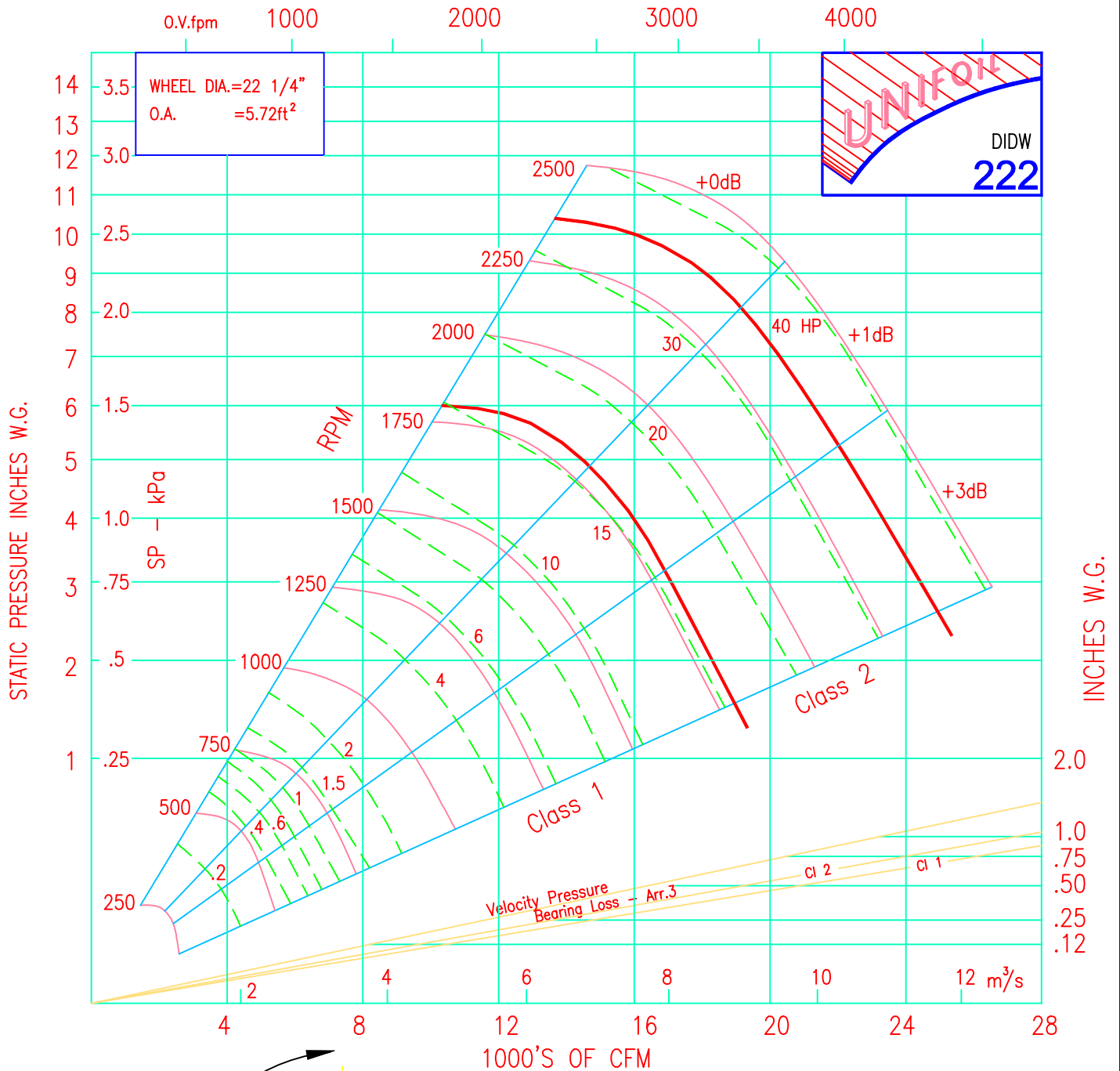
"CLOCK WISE" WHEEL SHOWN



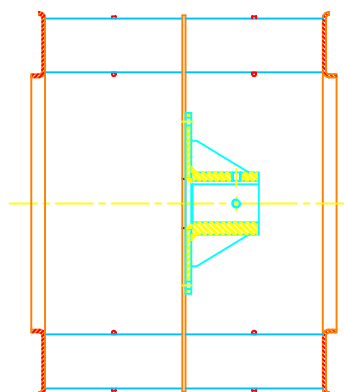
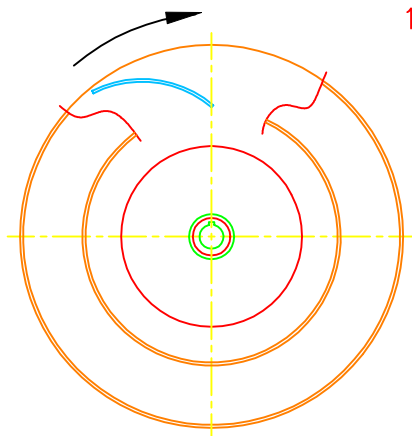
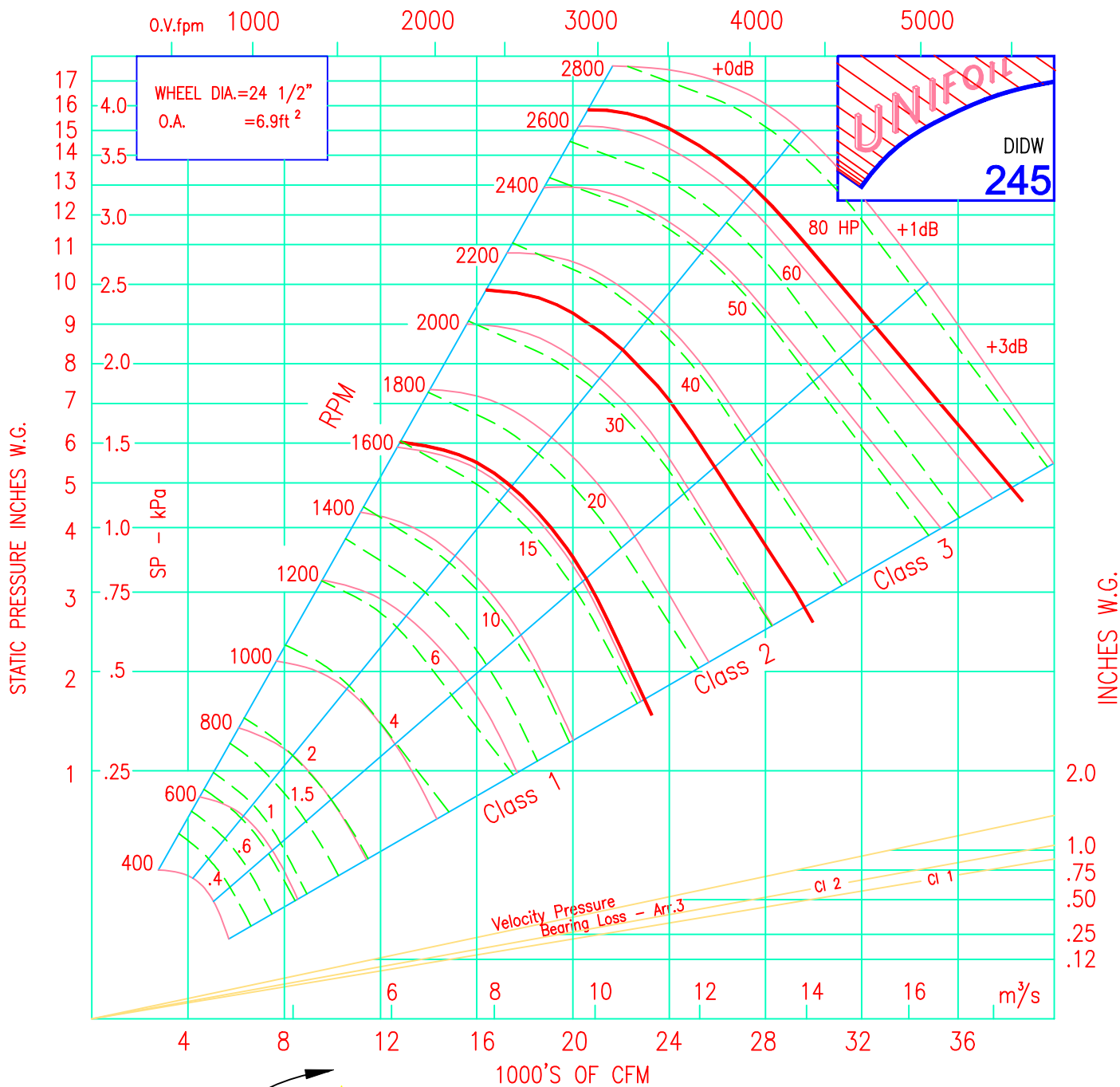
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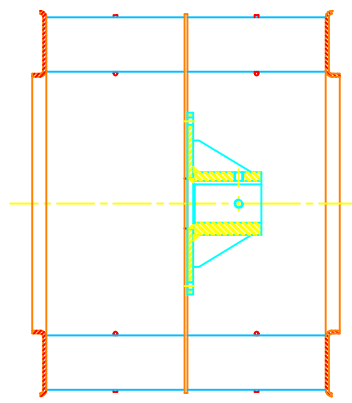
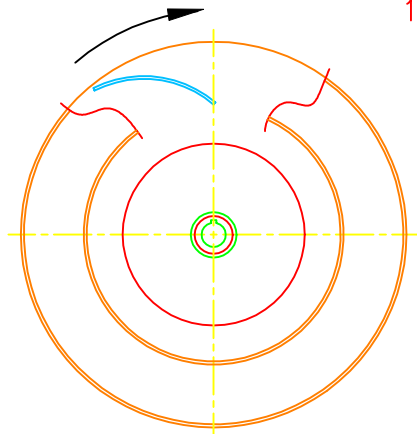
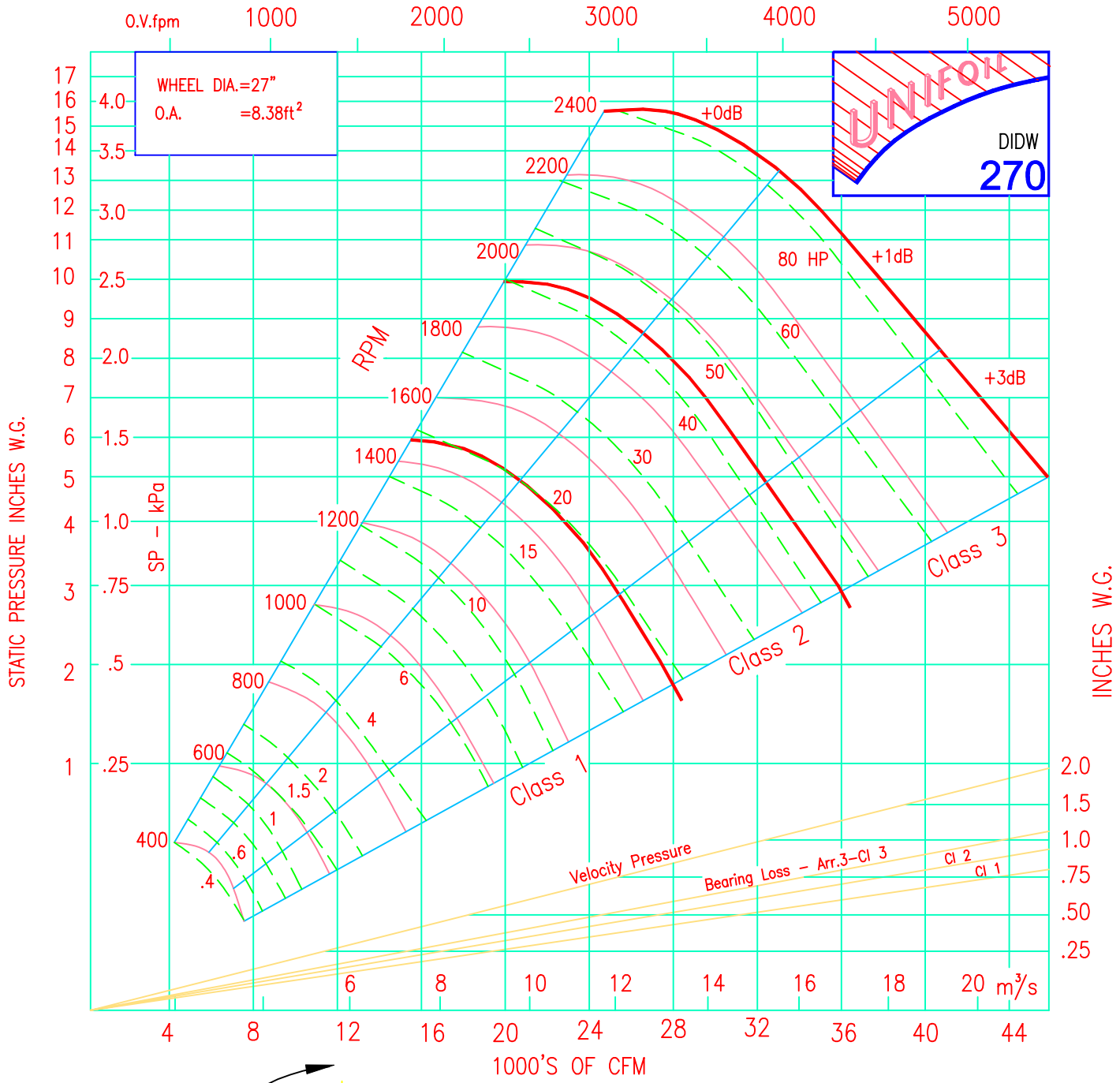
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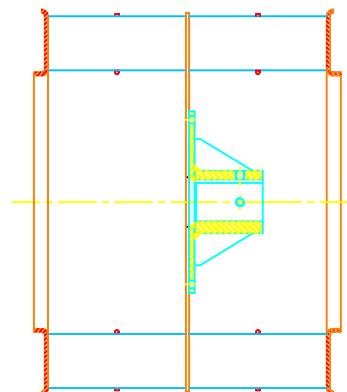
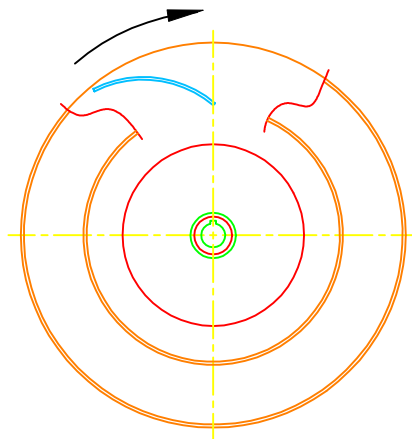
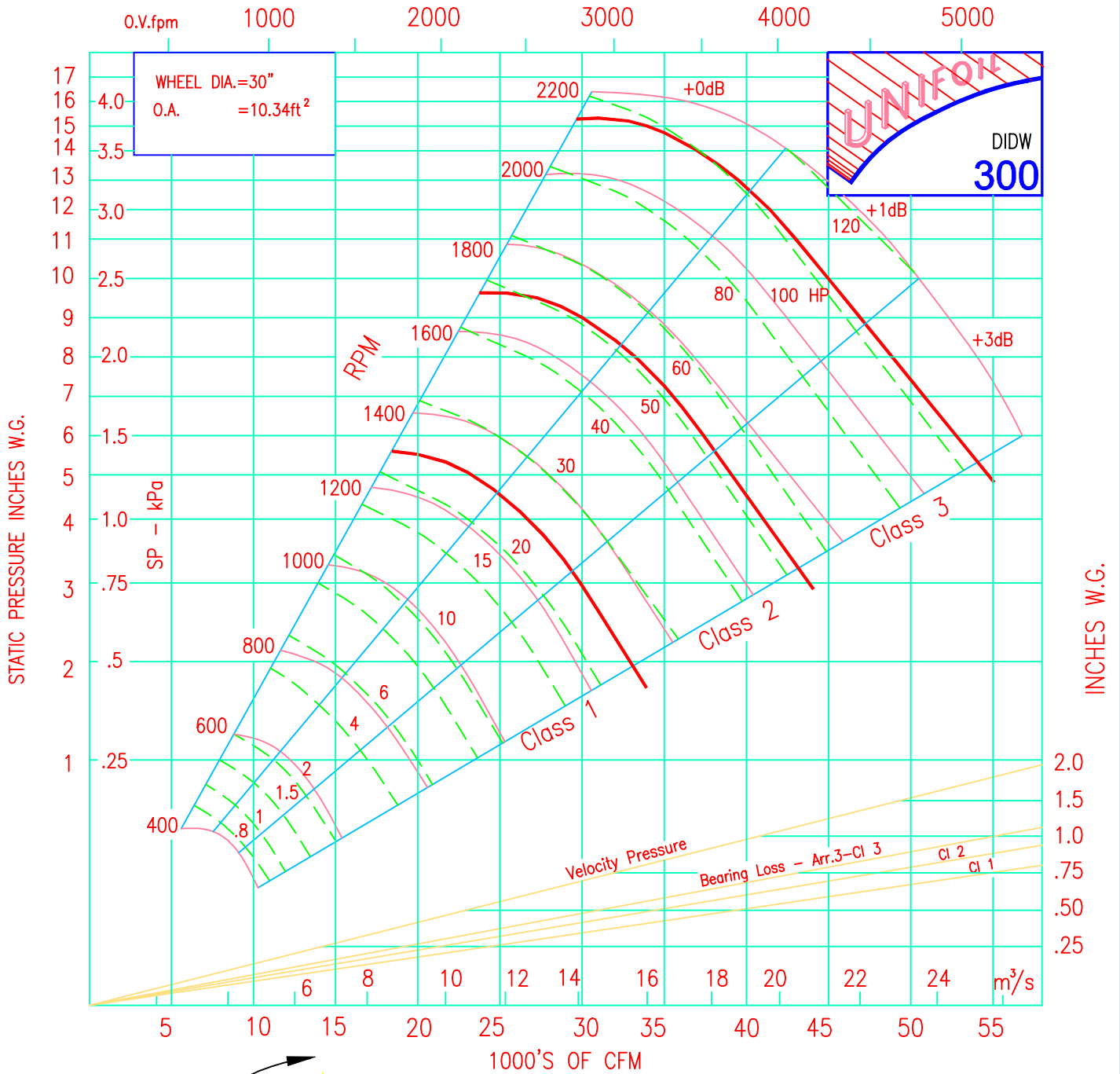
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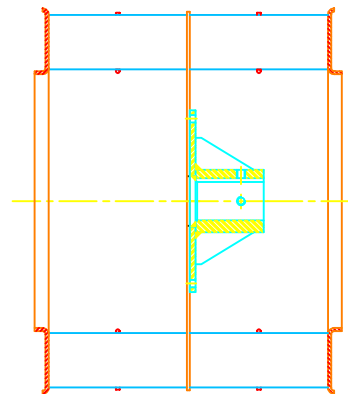
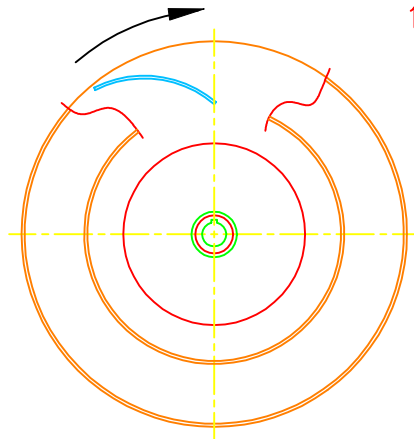
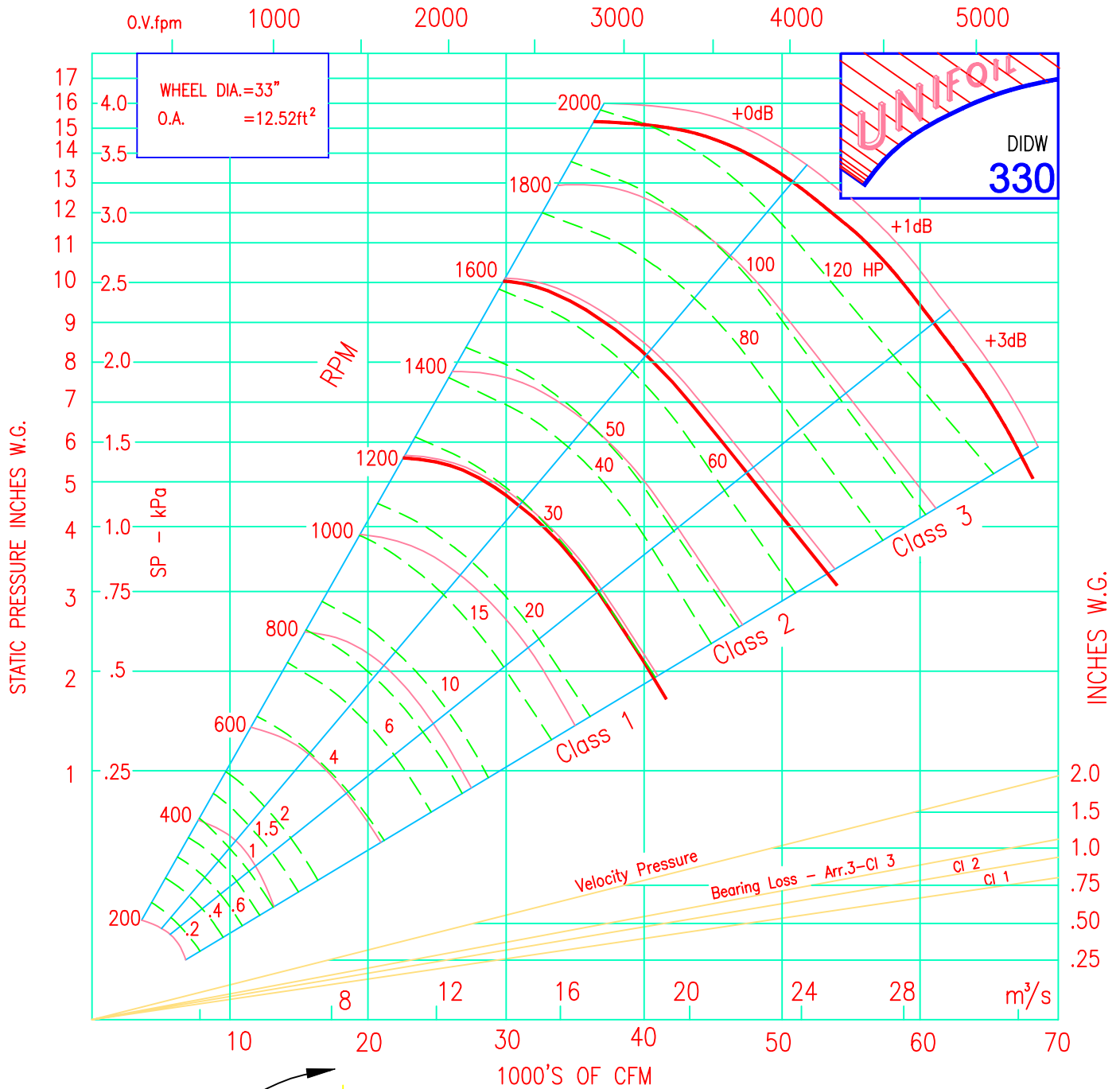
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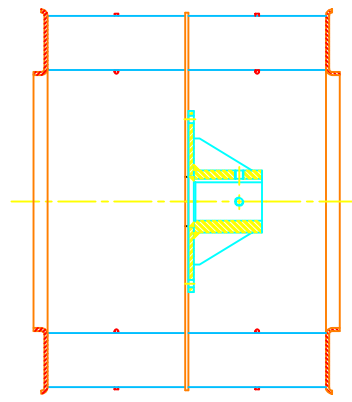
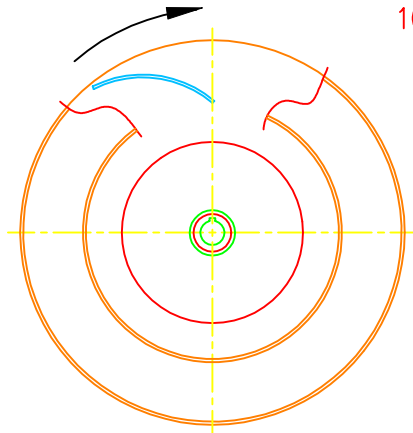
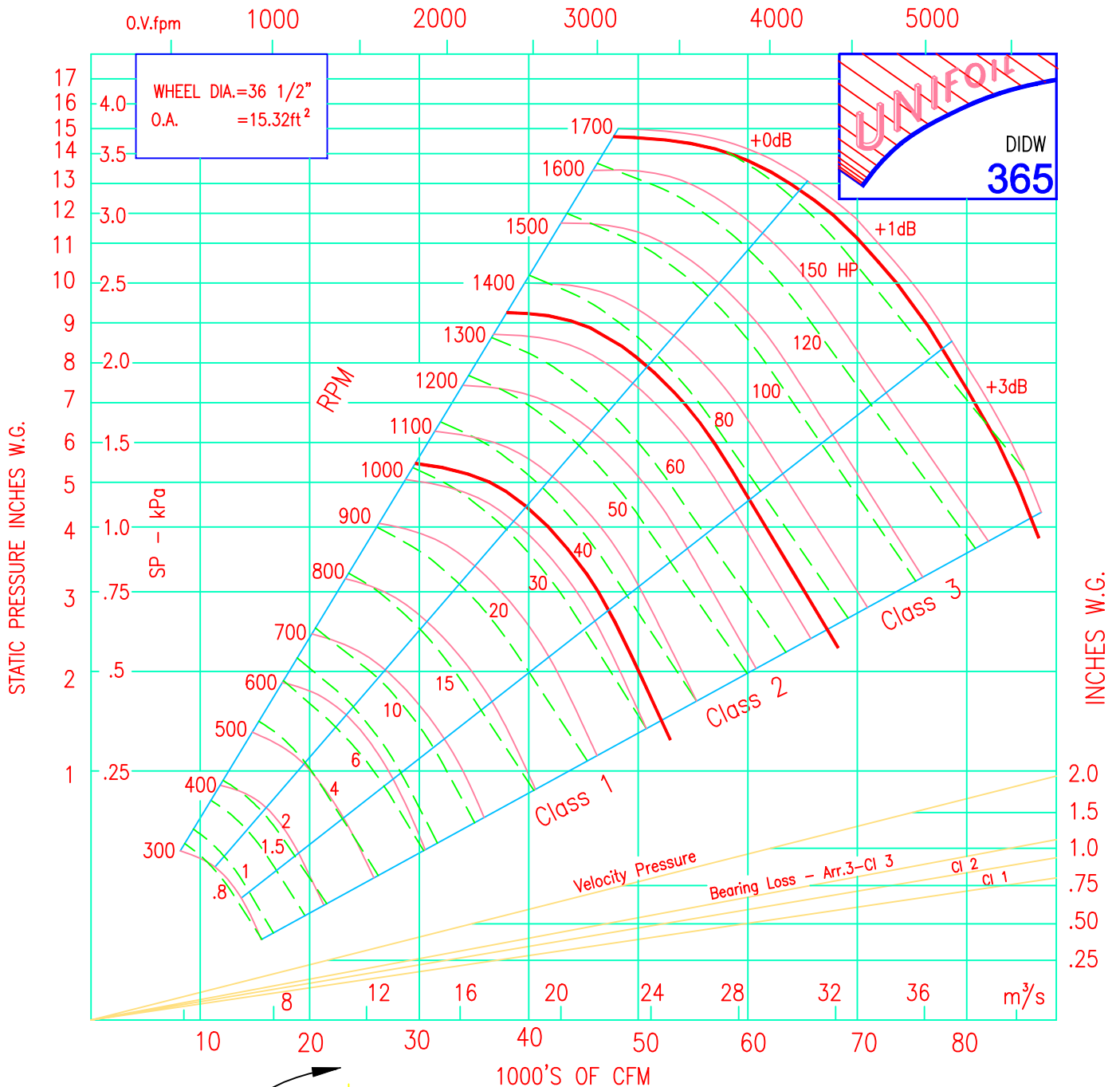
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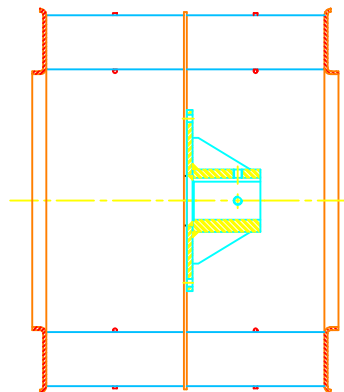
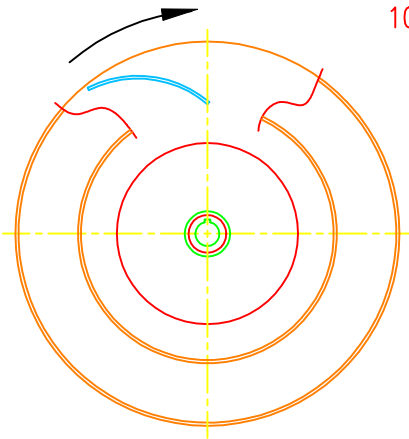
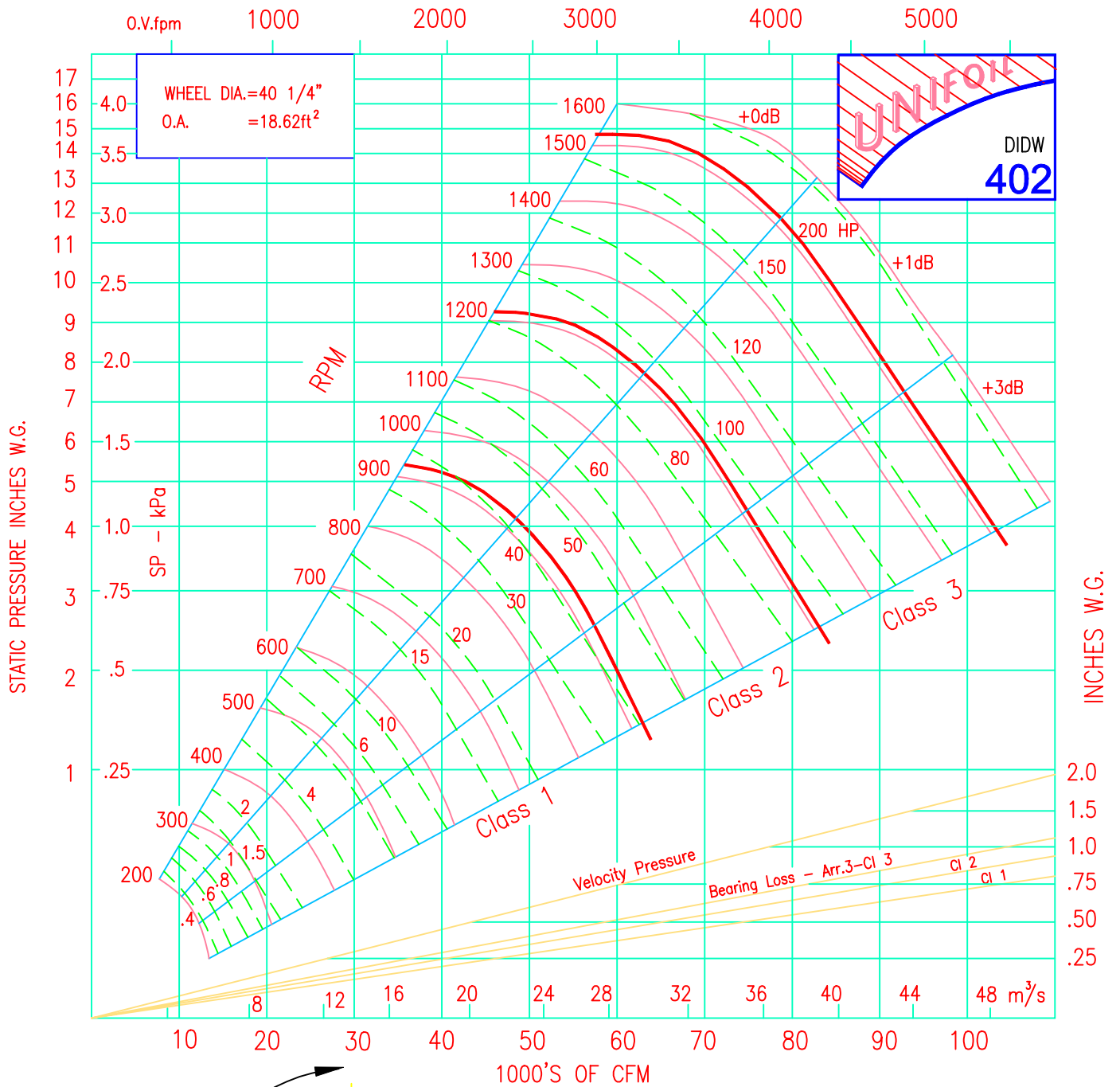
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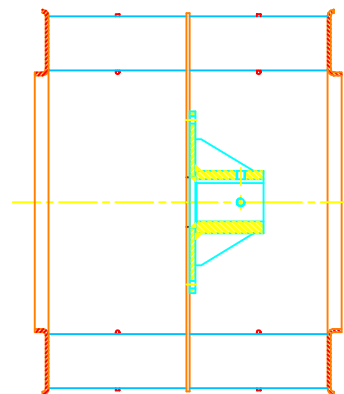
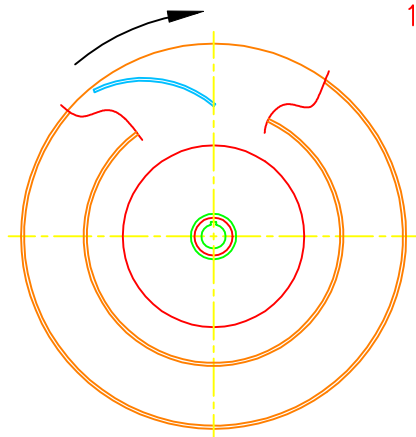
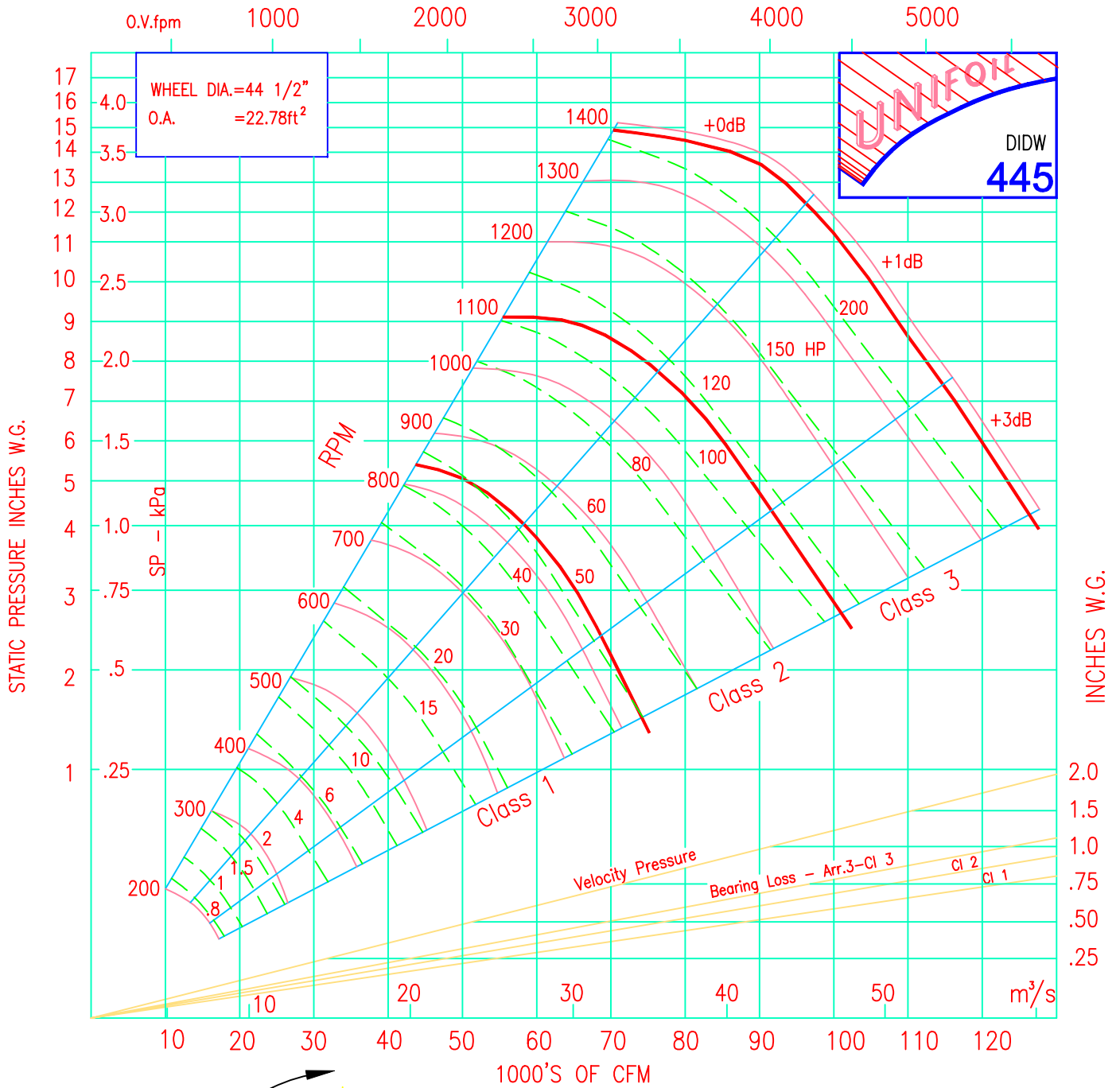
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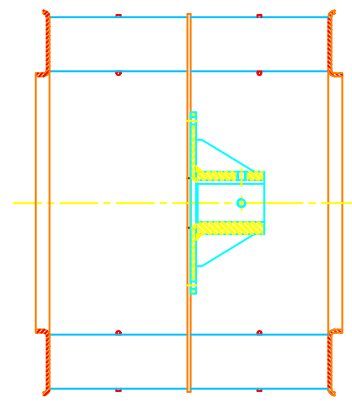
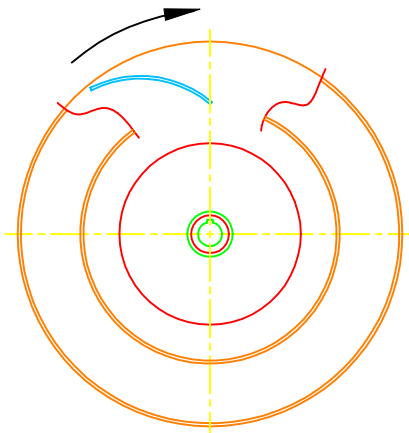
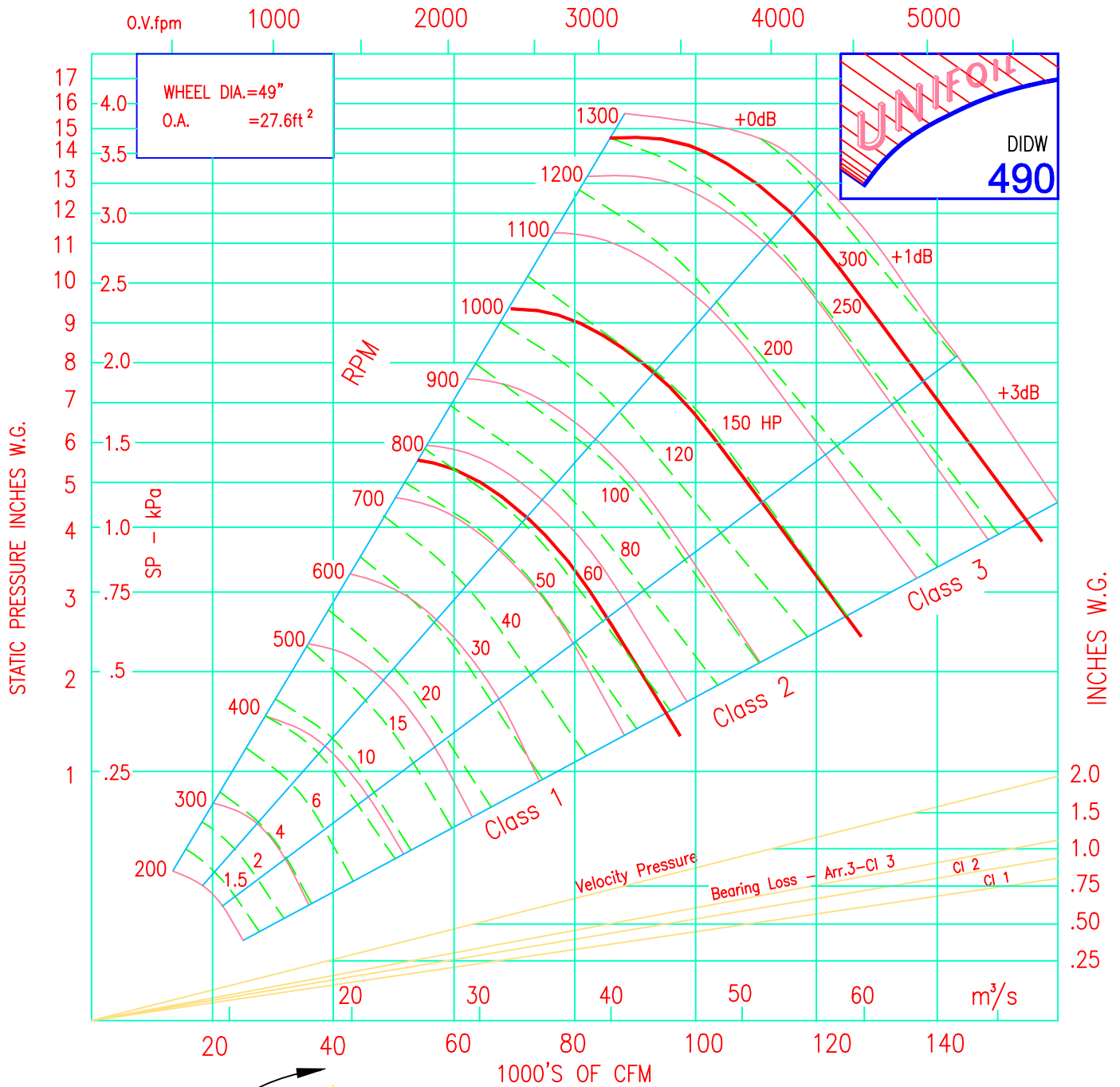
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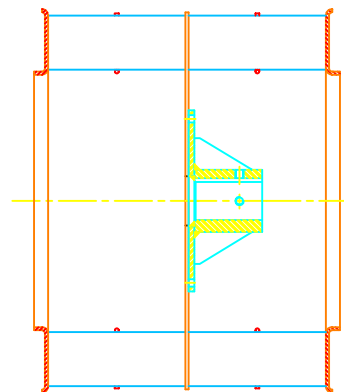
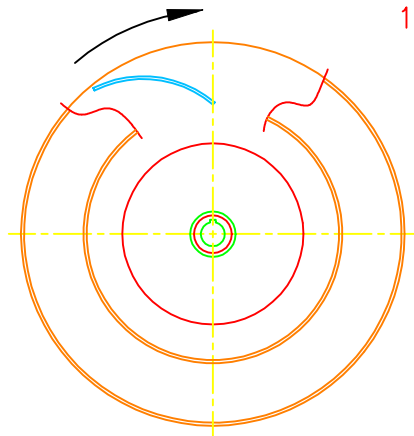
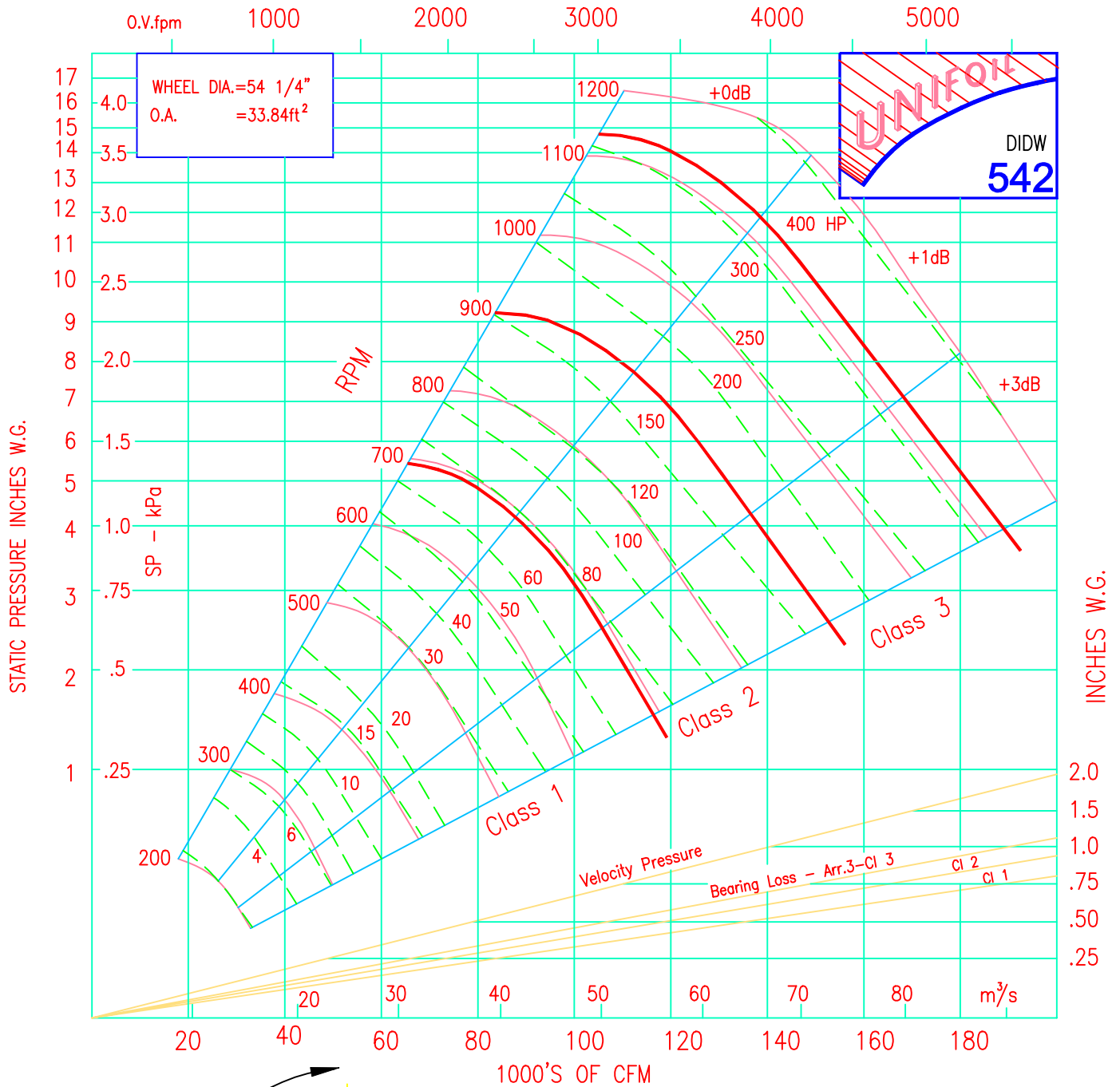
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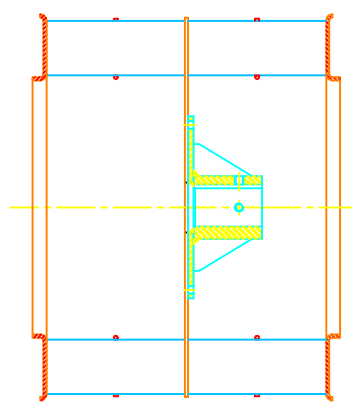
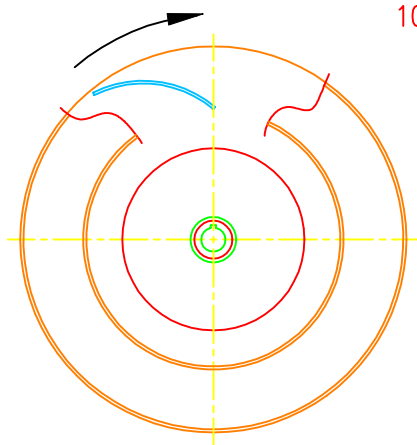
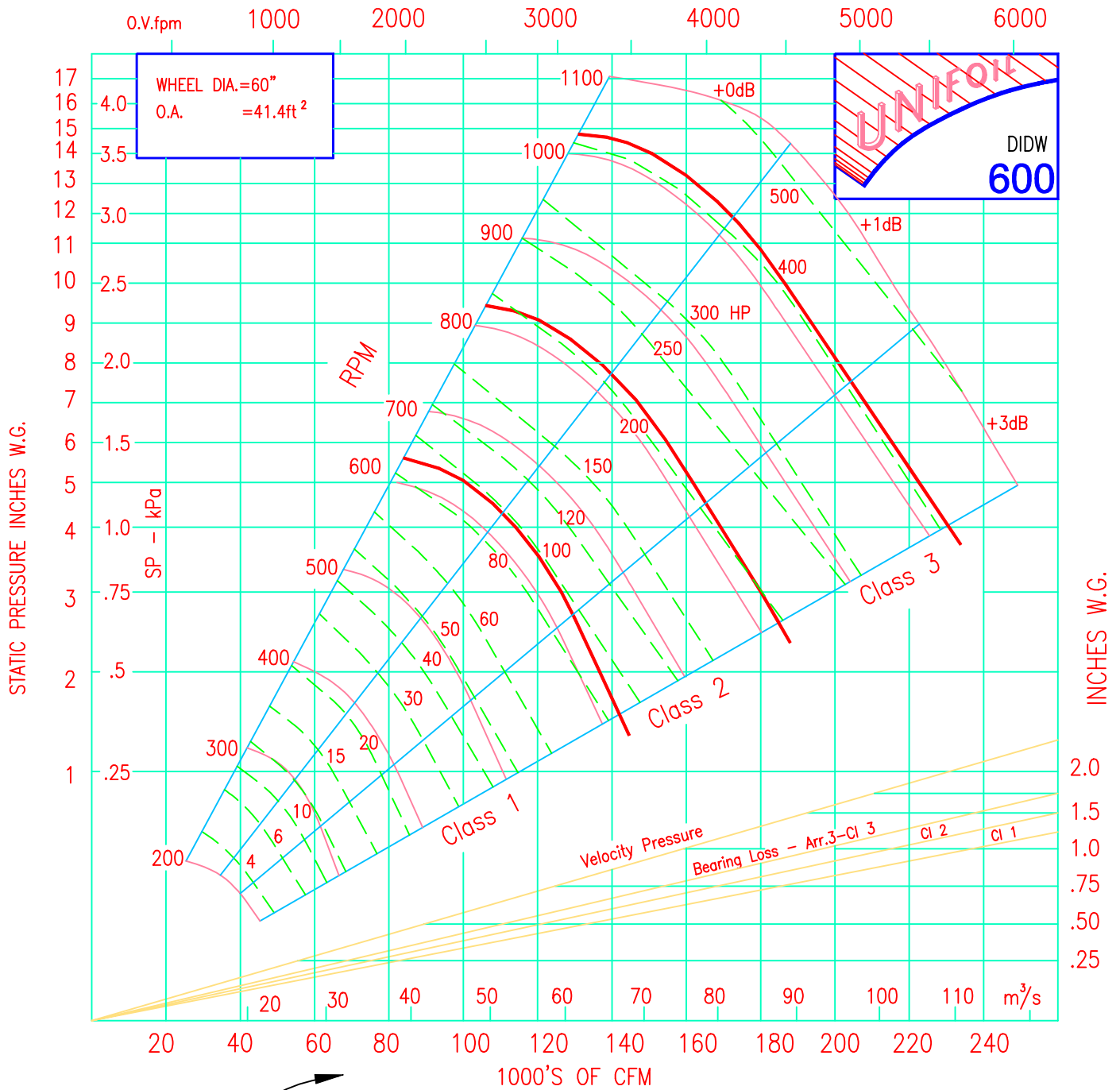
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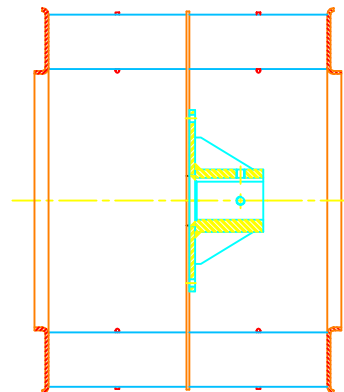
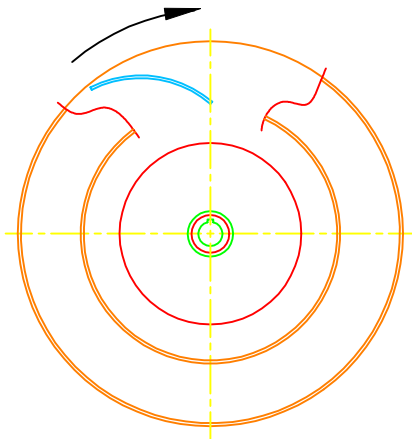
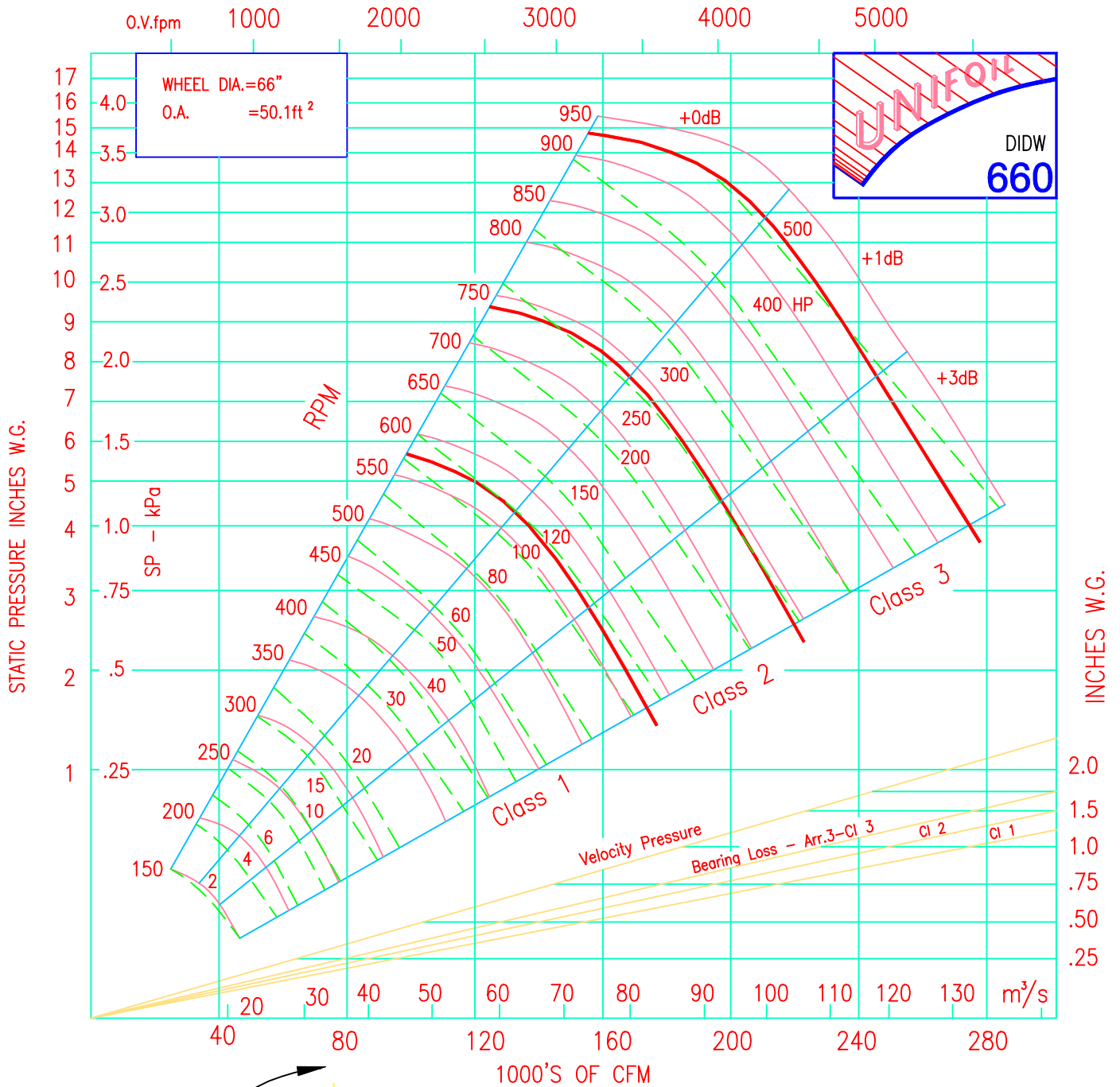
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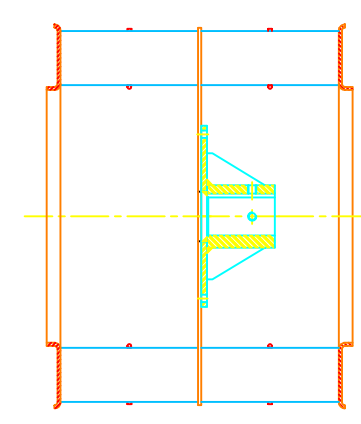
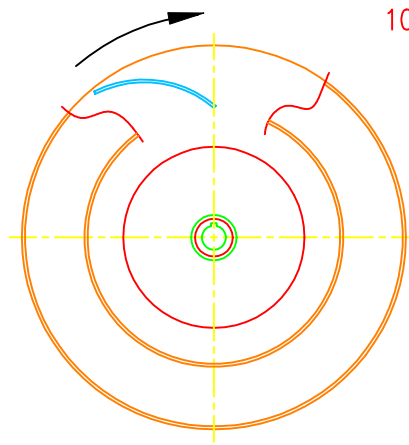
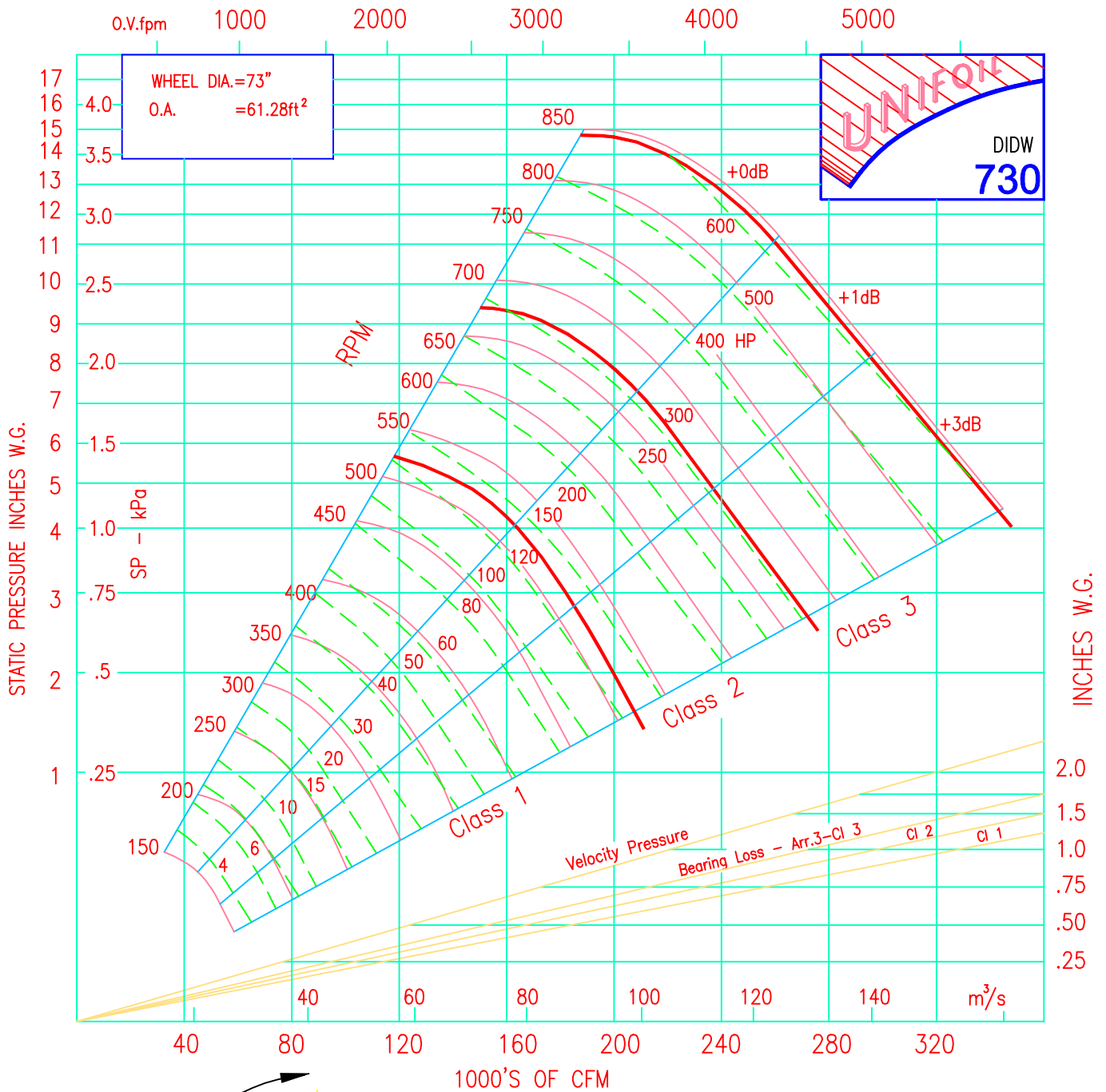
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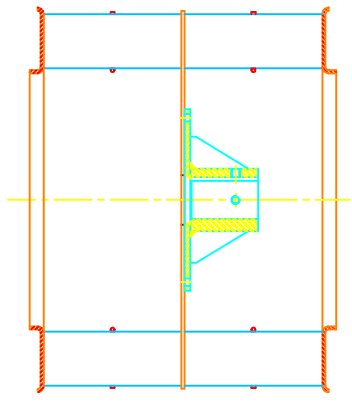
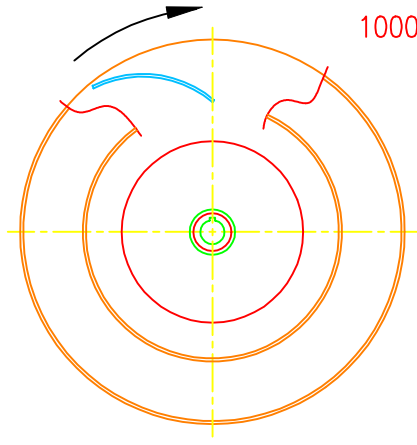
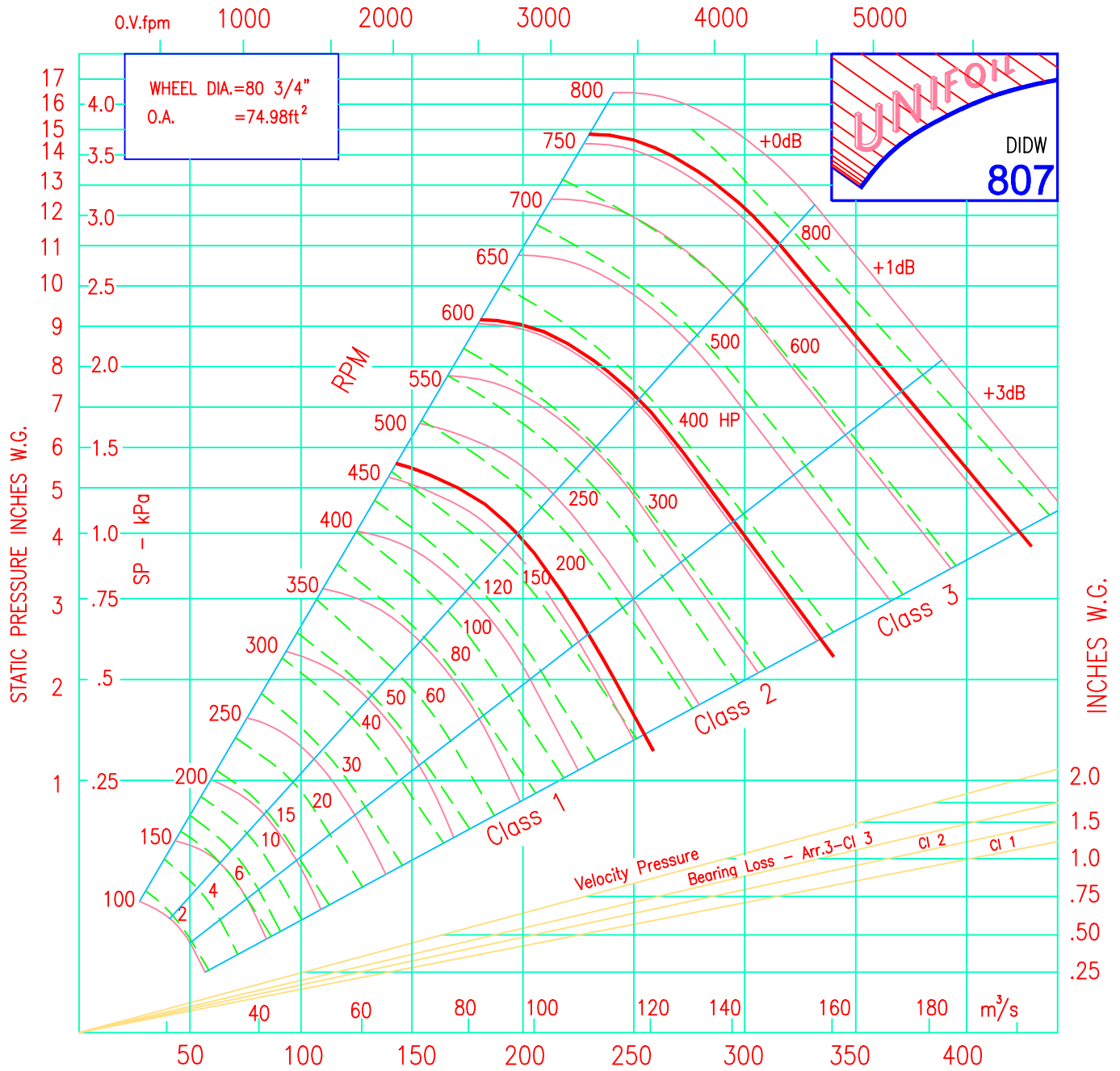
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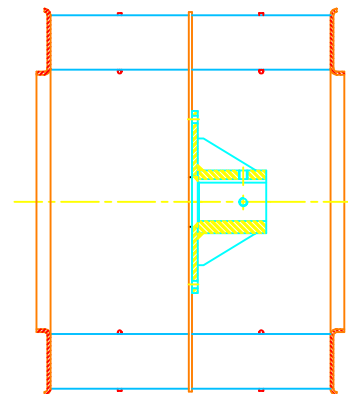
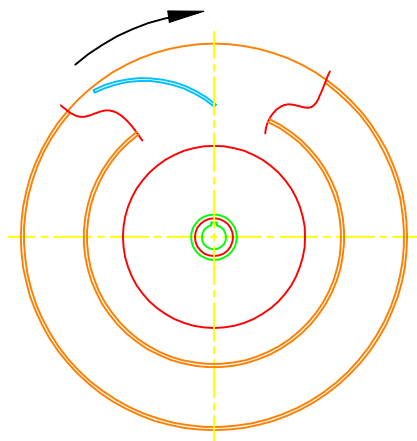
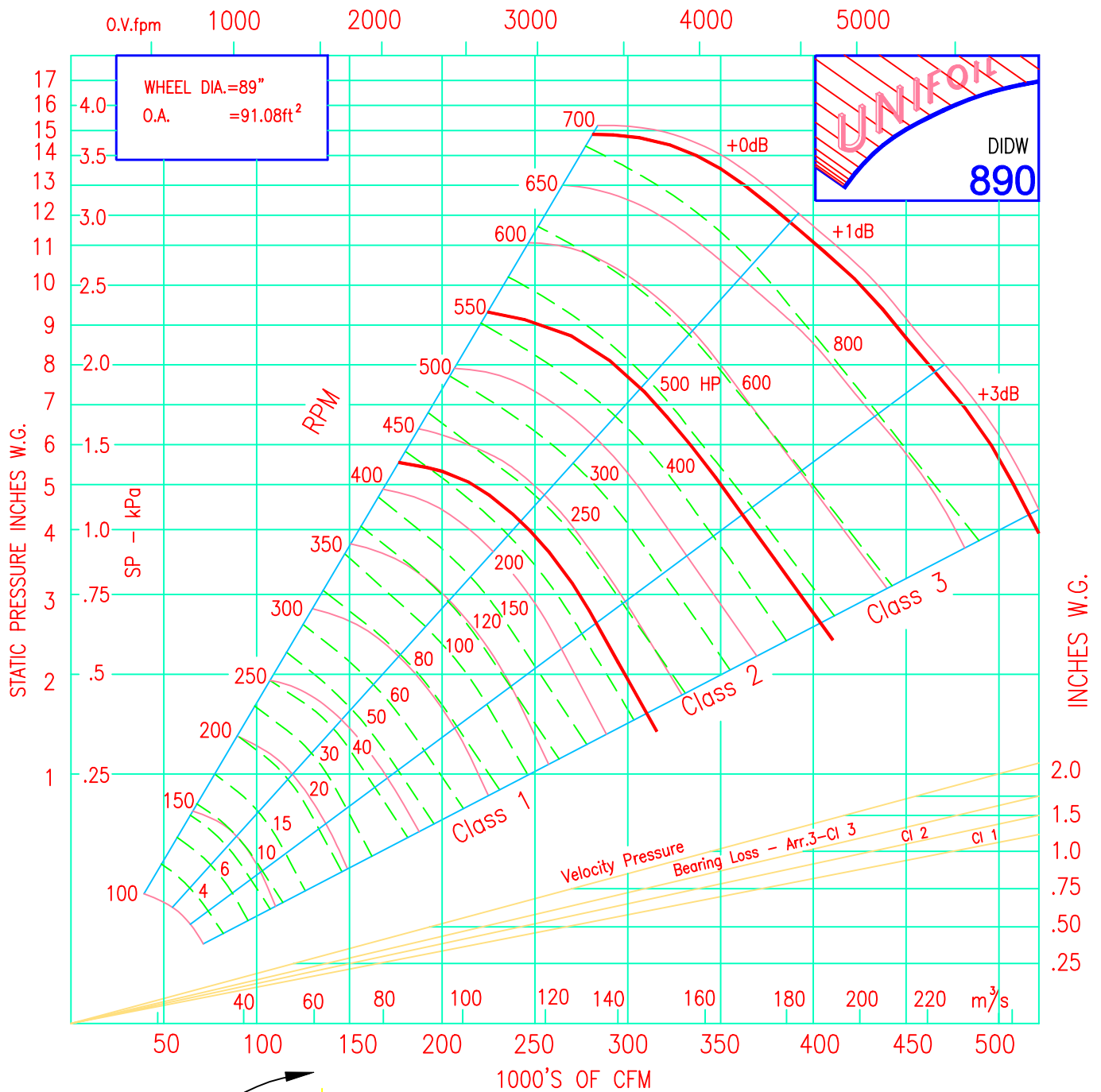
"CLOCK WISE" WHEEL SHOWN



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