

Roots 45 URAI Blower

Comparison with Tuthill 4005 Dual Lobe Blower

The 4005 model is in the Tuthill / M-D Pneumatics Competitor series and is also referred to as a 4005 CP. This unit is available in either a 2-lobe or 3-lobe design. This comparison document applies to the 2-lobe unit.



LUBRICATION

Both the 45 URAI and 4005 CP utilize oil lubrication on the gear end and grease on the drive end.

	45 URAI	4005 CP
Required Oil (Horizontal Unit)	22.8 oz	8.5 oz
Required Oil (Vertical Unit)	12.7 oz	5.8 oz
Grease Type	Aluminum Complex NLGI #2	Lithium Complex NLGI #2

Gear End Oil Lubrication

Blowers ship dry from factory and oil must be added before startup. Oil must be an industrial type non-detergent, rust inhibiting, anti-foaming oil of the correct viscosity. See your manual or contact us for assistance selecting the viscosity.

Drive End Grease Lubrication

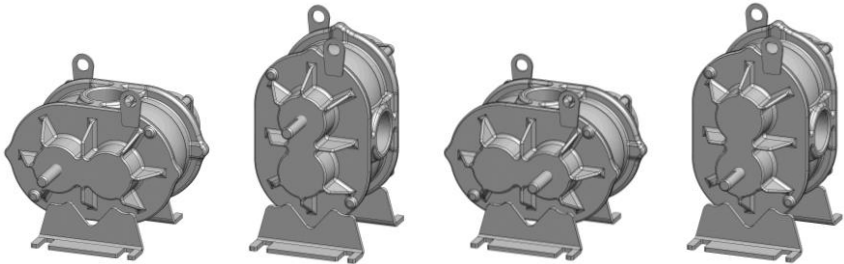
These manufacturers use different types of grease which should not be mixed. If you plan to change to a different grease than the type that came in your blower, a full purge must be done.

SPECIFICATIONS

	ROOTS 45 URAI	TUTHILL 4005 CP
Flow Range:	to 395 CFM	To 373 CFM
Max Δ Pressure:	10 psi	10 psi
Max Δ Vacuum:	15" Hg	16" Hg
Maximum RPM:	3600	3600
Minimum RPM:	848	850
Max ΔT:	225° F	210° F
Connection:	2.5" FPT	2.5" FPT
Shaft Diameter:	7/8"	7/8"
Unit Weight:	109 lb	127 lb

CONFIGURATIONS

Both models feature movable mounting feet that allow the blower to be flipped into four different configurations. The manufacturer's part numbers are listed below.



	LEFT HAND	TOP DRIVE	RIGHT DRIVE	BOTTOM DRIVE
45 URAI	6510902L	6510902T	6510902R	6510902B
4005 CP	4005-A6L2CV1-A	4005-A6T2CV1-A	4005-A6R2CV1-A	4005-A6B2CV1-A

*Characters in the Tuthill model designations indicate materials, configurations, and special options.

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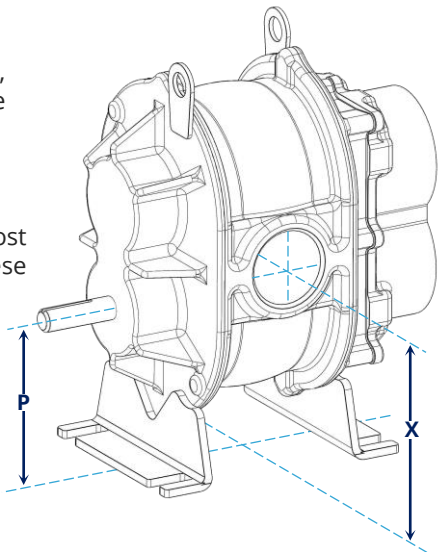
Dimensional Comparison with Tuthill 4005

While these are considered drop-in equivalents, there are minor differences which should be considered for your situation.

SHAFT AND CONNECTIONS

Shaft size (U) and connection size (C) are the most important dimensions to compare. With these two models both measurements are the same.

To determine whether any changes to your piping or enclosure will be needed, take note of the placement of the connections (X,H) and the shaft (P,W).

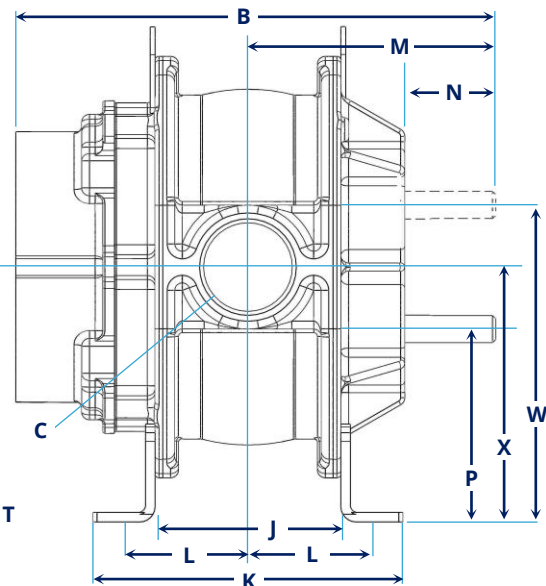
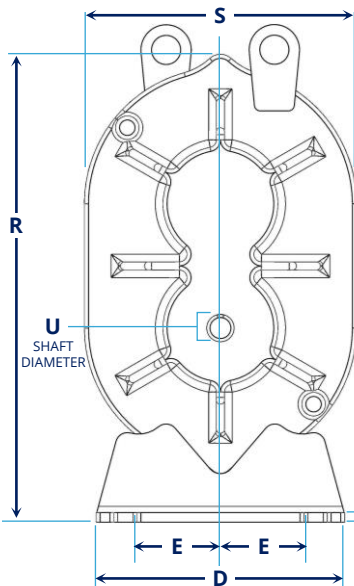
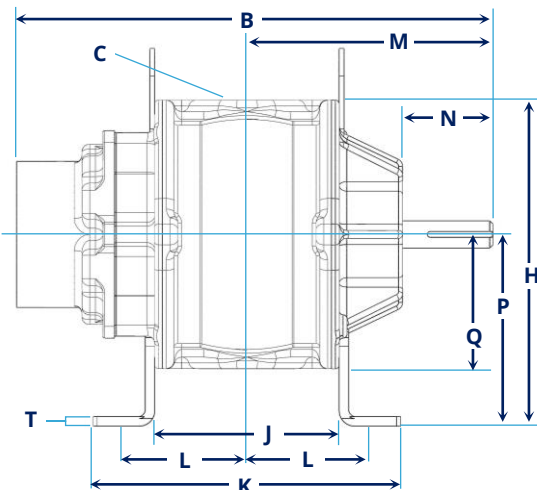
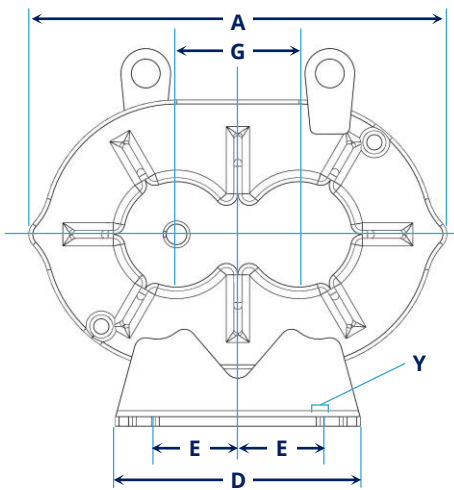
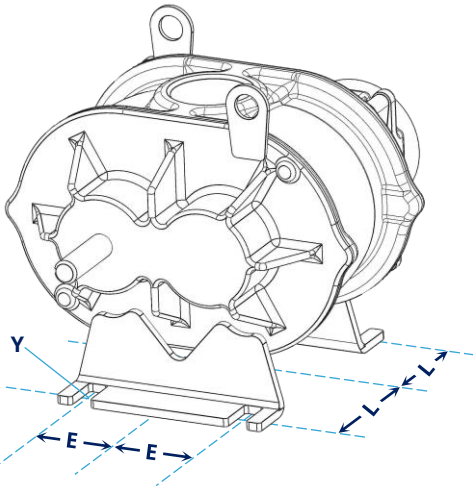


MATERIALS

Both units have cast iron cylinders and headplates. Tuthill blowers have ductile iron impellers and shafts while Roots units have cast iron impellers with steel shafts.

MOUNTING FEET

The placement of the bolt slots in the mounting feet is also important to consider. Both units feature universal mounting feet that can be moved to accommodate changes in configuration.

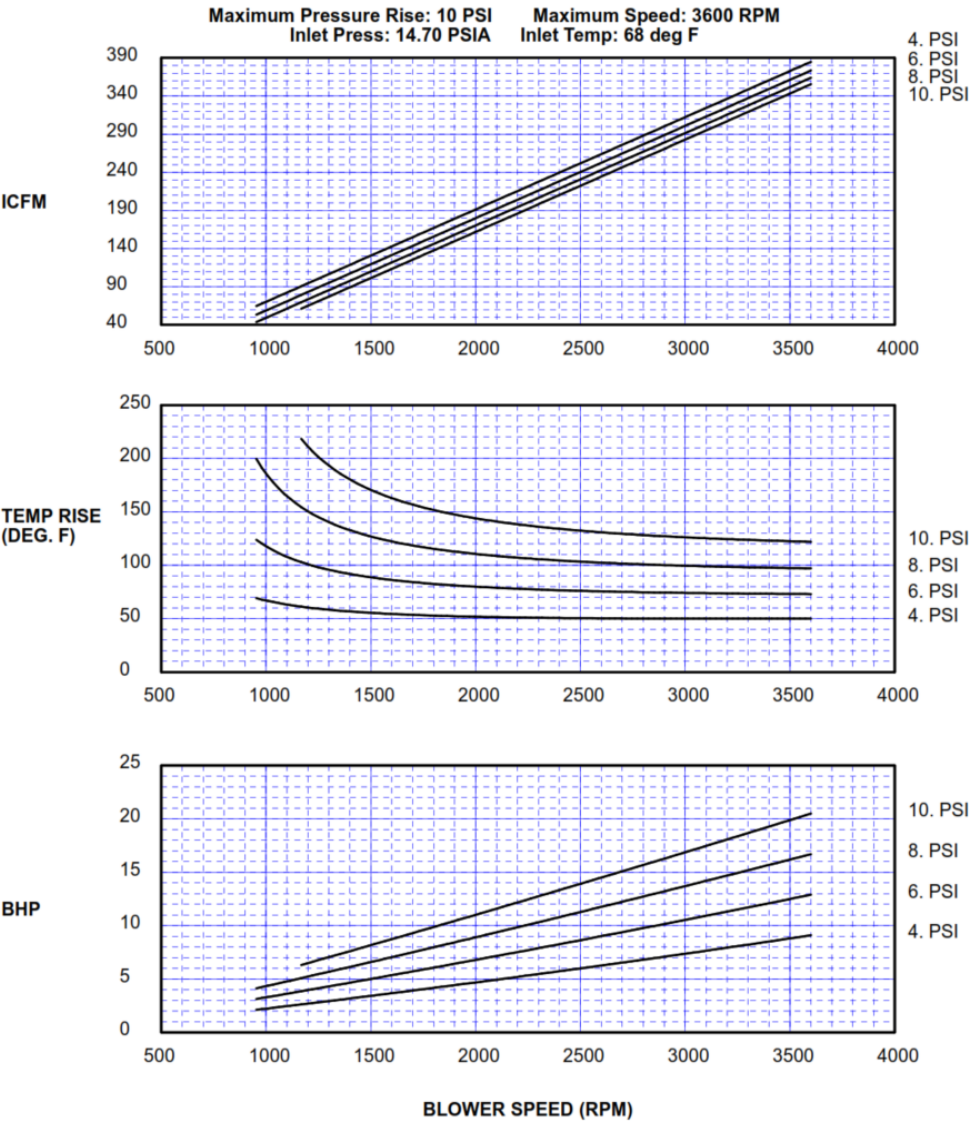


MAKE	MODEL	A	B	C	D	E	G	H	J	K	L	M	N	P	Q	R	S	T	U	W	X	Y
Roots	45 URAI	13.63	15.50	2.5" NPT	8	3 – 3.13	4	10.63	6	10	3.56 – 4.25	8	2.4	6.25	4.38	15.06	8.75	0.31	0.875	10.25	8.25	0.44 bolts
Tuthill	4005 CP	13.69	15.69	2.5" NPT	8	3.07	4	10.63	6	10	4.13	8.06	3	6.25	4.38	15.13	8.76		0.875	10.25	8.25	0.875 bolts

All measurements shown in inches

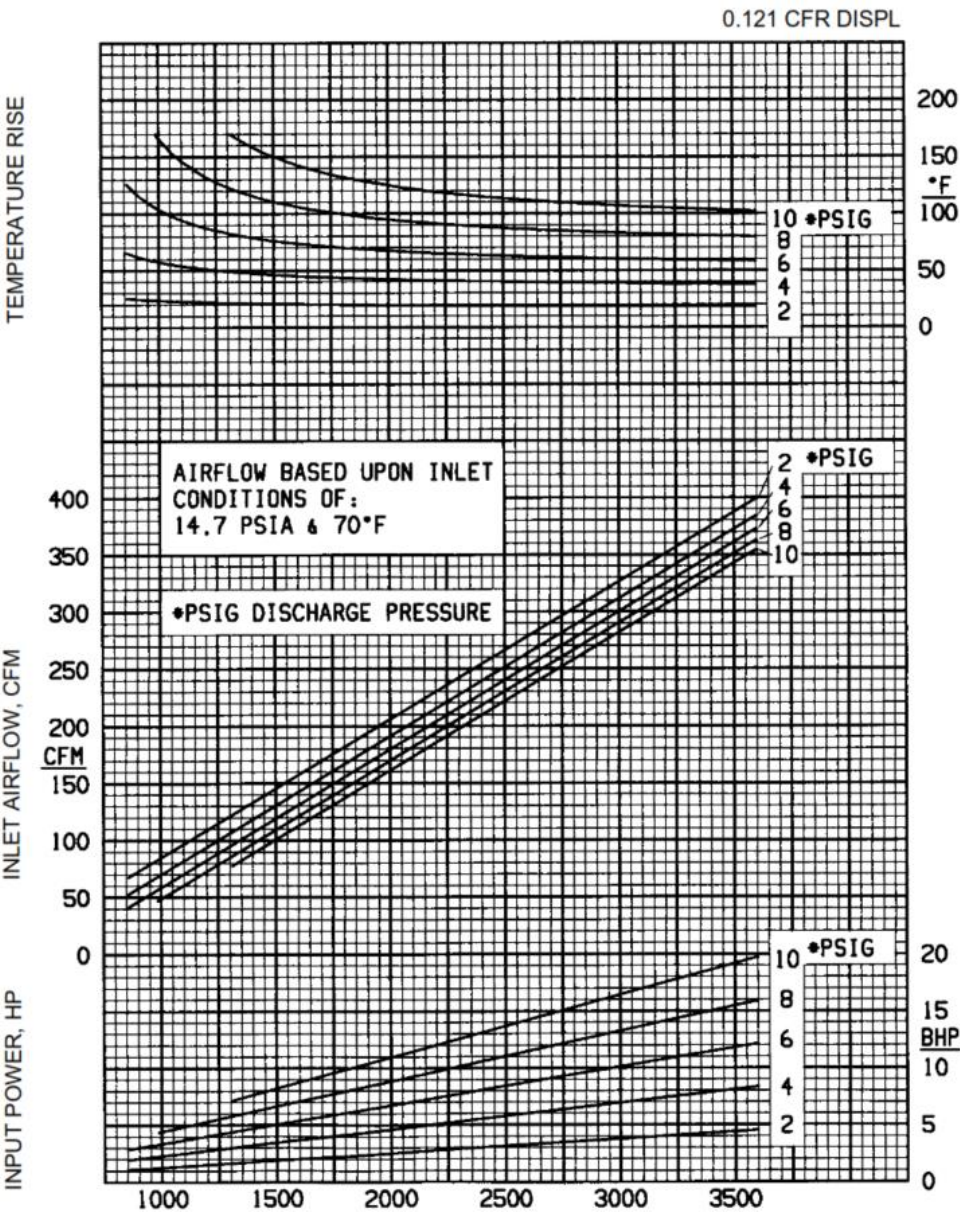
Roots 45 URAI

PRESSURE PERFORMANCE



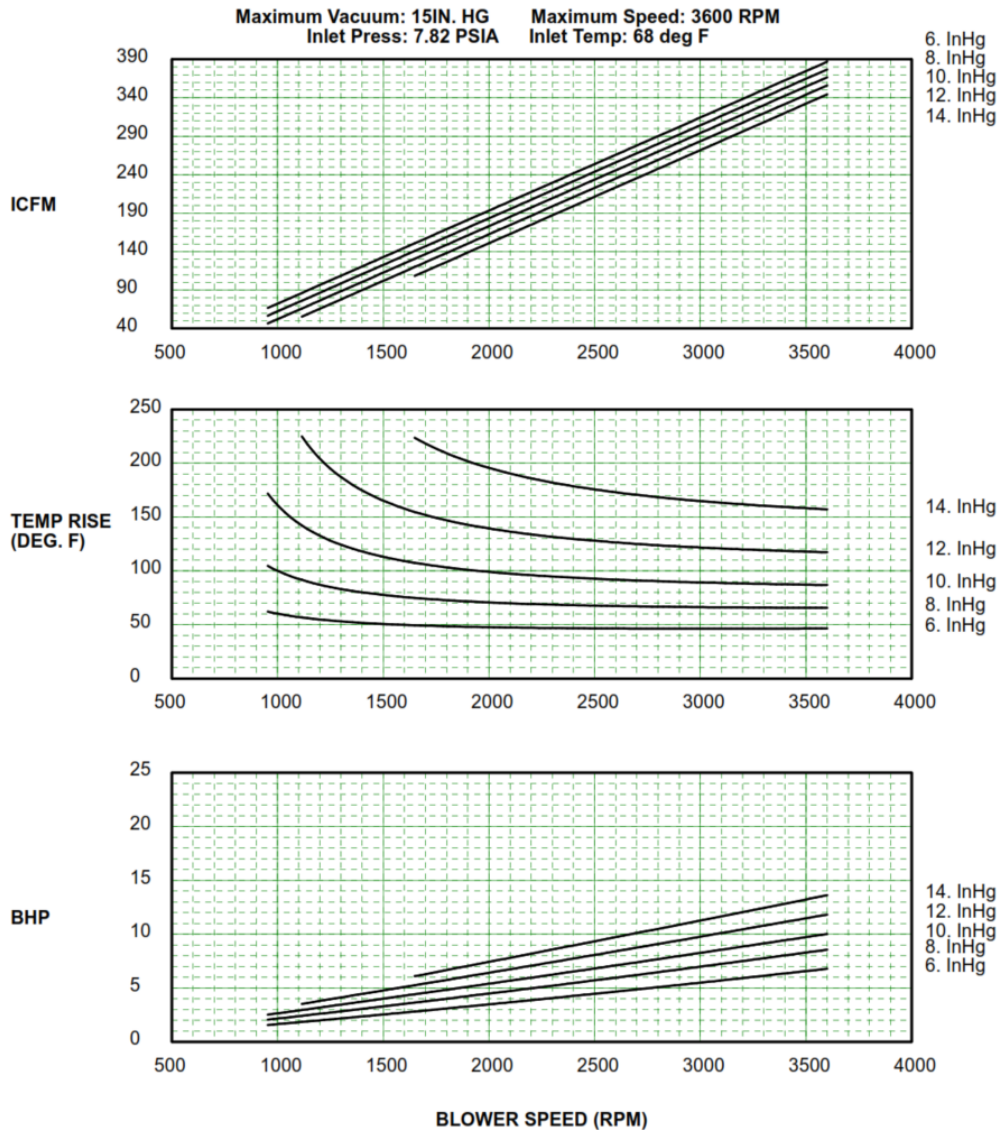
Tuthill 4005 CP Dual Lobe

PRESSURE PERFORMANCE



Roots 45 URAI

VACUUM PERFORMANCE



Tuthill 4005 CP Dual Lobe

VACUUM PERFORMANCE

