

Boosters, Intensifiers and Air/Oil Tanks

Ram and Piston Type



NOPAK

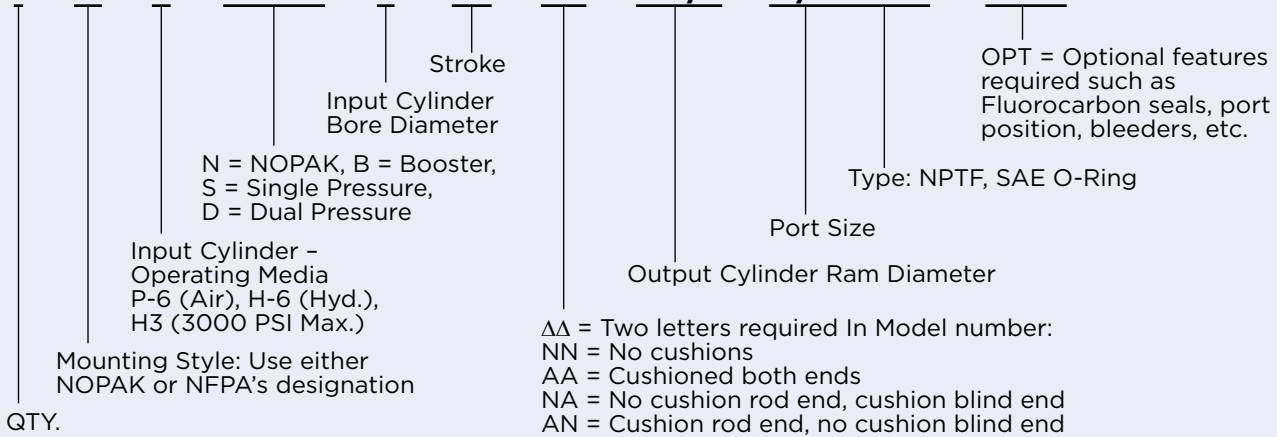
First in Manufacturing. Engineered to Last.

HOW TO ORDER

ORDERING CODE EXAMPLE - RAM TYPE BOOSTER

NBS-5 (NOPAK Booster Single pressure 5000 PSI output max.) / **NBD-5** (NOPAK Booster Dual pressure 5000 PSI output max.)

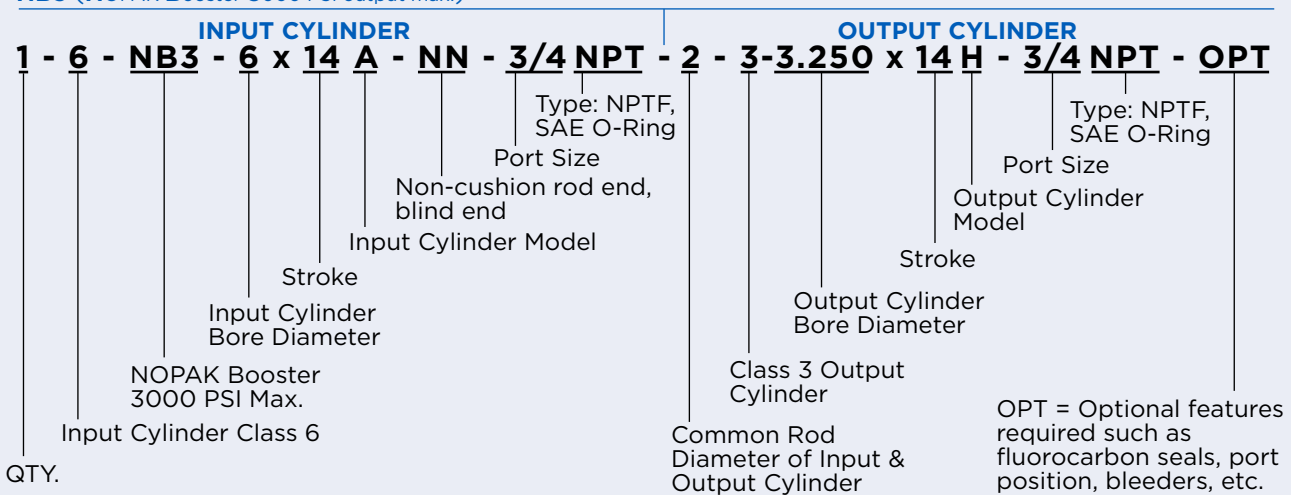
1 - A - 6 - NBS5 - 5 x 14 - ΔΔ - 1-3/8 - 3/4 NPT - OPT



ORDERING CODE EXAMPLE - PISTON TYPE BOOSTER

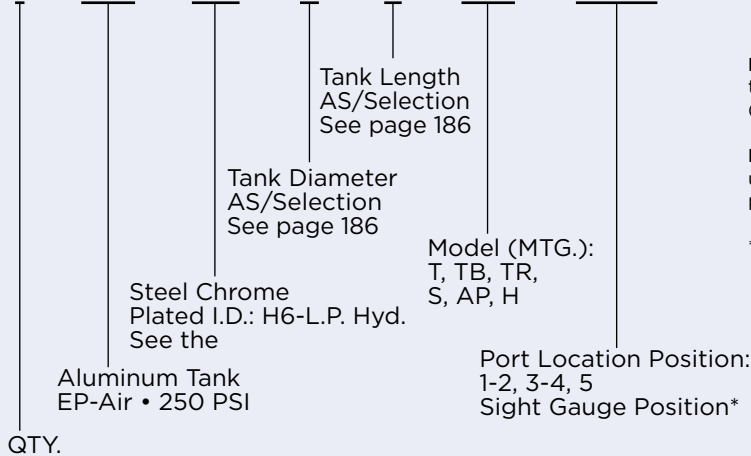
NB3 (NOPAK Booster 3000 PSI output max.)

1 - 6 - NB3 - 6 x 14 A - NN - 3/4 NPT - 2 - 3-3.250 x 14 H - 3/4 NPT - OPT



ORDERING CODE EXAMPLE - AIR-OIL TANKS

1 - EP^{OR} - H6 - 6 x 8 - AP - OPT



MATERIAL NOTE: Aluminum heads (Class EP stock) for tank diameter 3-1/4 through 8" diameter steel heads (Class H6 stock) for tank diameters 10-12-14

NOTE: Unless specified, Air-Oil Tanks shall be a separate unit in the Booster Circuit, as illustrated on page 186 and page 187.

* = Sight gauge is considered to be in position 1 in all cases unless specifically called out otherwise. See page 187.

GENERAL INFORMATION

NOPAK air-oil tanks are used as a simple economical method to supply a make up source of oil to any hydraulic circuit. Mounting the tank in a vertical position above the circuit that is being supplied, automatically bleeds the entire circuit system. The air supply to the air over oil tank is supplied by the same shop air source that provides low pressure power to the booster. In addition, air-oil tanks offer a means of smooth hydraulic speed control.

DESIGN FEATURES:

- Baffles on either end of the tank to reduce turbulence caused by rapid intake of air and discharge of oil causing aeration, whirlpooling and foaming.
- Replaceable sight gauge mounted in heads on the tank side. The transparent plastic sight tube clearly shows oil levels in the tank and is compatible with most hydraulic fluids.
- Large pipe ports enable the quick filling or draining of the tank. Aluminum heads are standard for tank diameters of 3-1/4" through 8". Otherwise steel Class 6 inventoried stock of 3-1/4" diameter through 14" diameters modified for added ports plus aluminum tubes are standard stock.

NOTE:

Tanks are also available with glass wound filament fiberglass tubing. Because it is translucent, it provides a visual oil level indication. This eliminates the use of a sight gauge. Fiberglass tubing has the highest strength to weight ratio commercially available. It has a higher resistance for high impact and dents than brass or aluminum tubing. Corrosion resistant to a wide range of chemicals, acids, high moisture and other severe conditions make for a trouble-free operation in most environments. NOPAK can economically supply you with either tank depending on your choice preference or specification.

HOW TO SELECT THE CORRECT SIZED AIR-OIL TANK

- 1 Determine the bore diameter and stroke of the work cylinder.
- 2 Calculate the cubic inch oil displacement of work cylinder by multiplying the piston square inch area times the stroke in inches. (Use Class 6 Section, page 137, "TABLE B - VOLUME OF OIL PER 12" OF STROKE" for piston square inch area for ready reference.) Your determination will result in the cubic inch displacement volume requirement needed to select an air-oil tank.

EXAMPLE:

Work cylinder has a 4" diameter bore with 15" long stroke. From the Class 6 Section, page 137:

$$12.56 \text{ sq. in. area } 4" \text{ bore} \\ \times 15" \text{ stroke length} \\ \underline{\hspace{1.5cm}} \\ 188.4 \text{ cu. in. displacement volume needed.}$$

See the tank selector chart below to select proper choice. Select a bore-height combination that has a capacity closest to, but larger than 188.4 cu. in. Your options are the 4" diameter bore with a 21" long tank length or the 5" bore with a 14" tank length or a 6" bore with an 11" tank length.

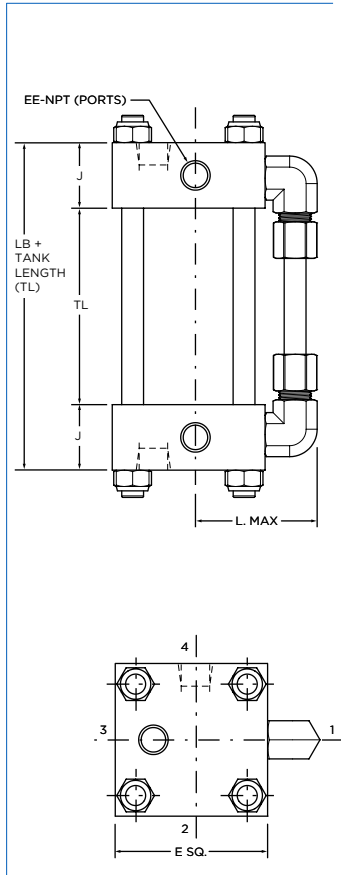
Economics recommends that your selection be the smaller 4" diameter bore with the 21" long tank length. This of course is predicated on available space. The smaller bore tanks are generally less costly than larger bores. Exceptions to this are the booster-tank combination, which then makes your selection to be that the tank diameter be the same diameter as the booster. Next selection would be the type of mount applicable to your requirements. See the chart on opposite page for selection and dimensions. NOPAK offers Models H, S, T, TB, and AP as a standard. However, other mounting styles can be selected from the Class 6 Section. When boosters and air-oil tanks are ordered, specify whether air-oil tanks should be separate or integral. It is assumed that air-oil tanks are to be separate unless specified.

Please consult the NOPAK Sales office or your nearest NOPAK representative for additional information.

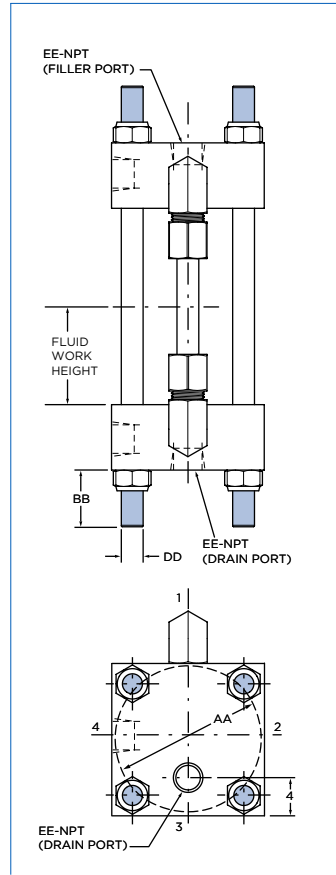
TANK SELECTOR CHART

TANK VOLUME IN CUBIC INCHES																					
TANK BORE (INCHES)	TL - TANK LENGTH IN INCHES																				
	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
3-1/4	21	25	32	35	44	51	58	66	73	80	88	95	102	109	116	124	131	139	146	153	160
4	31	38	48	56	67	78	88	100	111	122	133	144	155	166	176	188	199	210	221	232	242
5	49	59	76	88	105	122	137	157	174	191	208	225	243	260	273	294	311	328	346	363	378
6	70	85	109	127	152	176	198	226	250	275	300	325	349	374	396	424	448	473	498	523	544
8	126	151	195	226	270	314	352	402	446	490	534	578	622	666	704	754	798	841	885	929	968
10	196	236	304	353	422	490	550	628	697	765	834	903	971	1040	1100	1178	1246	1315	1384	1453	1512
12	283	339	438	509	607	706	792	904	1003	1102	1201	1300	1399	1498	1583	1696	1795	1894	1993	2092	2177
14	385	462	597	692	827	962	1078	1231	1366	1500	1635	1770	1905	2039	2155	2309	2443	2578	2713	2847	2963
Fluid Working Height In.	2-1/2	3	3-7/8	4-1/2	5-3/8	6-1/4	7	8	8-7/8	9-3/4	10-3/8	11-1/2	12-3/8	13-1/4	14	15	15-7/8	16-3/4	17-5/8	18-1/2	19-1/4

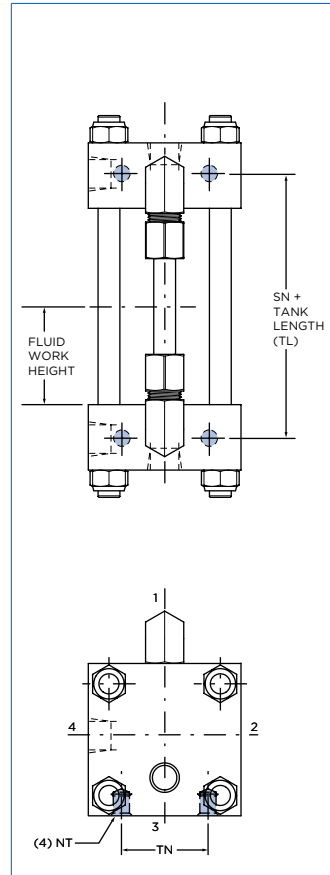
MODEL H



MODEL T-TB (NFPA STD. STYLE MX1 & MX2)



MODEL S (NFPA STD. STYLE MS4)



MODEL AP (NFPA STD. STYLE MS1)

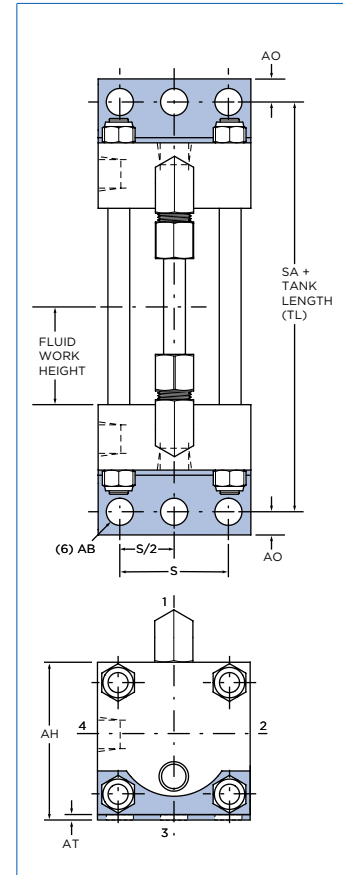


Table 1

• = Dimension refers to bolt diameter.

TANK BORE (INCHES)	E	J	U	S	L	AA	AB•	AT	AH	AO	BB	DD	EE	LB	NT	SA	SN	TN
3-1/4	3-3/4	1-1/4	1-3/8	2-3/4	3-1/4	4.00	1/2	2	1/2	1/8	1-3/8	7/16-20	1/2	2-1/2	1/2-13	5	1-3/8	1-1/2
4	4-1/2	1-1/4	1-5/8	3-1/2	3-5/8	4.75	1/2	2-1/4	1/2	1/8	1-3/8	7/16-20	1/2	2-1/2	1/2-13	5	1-3/8	2-1/16
5	5-1/2	1-1/4	2	4-1/4	4-1/8	5.80	5/8	2-3/4	5/8	3/16	1-3/4	1/2-20	1/2	2-1/2	5/8-11	5-1/4	1-3/8	2-11/16
6	6-1/2	1-1/2	2-1/4	5-1/4	4-5/8	6.90	3/4	3-1/4	5/8	3/16	1-3/4	9/16-18	3/4	3	3/4-10	5-3/4	1-5/8	3-1/4
8	8-1/2	1-1/2	3	7-1/8	5-5/8	9.10	3/4	4-1/4	11/16	1/4	2-1/4	5/8-18	3/4	3	3/4-10	6-5/8	1-5/8	4-1/2
10	10-5/8	2	3-1/4	8-7/8	6-3/4	11.30	1	5-5/16	7/8	1/4	2-5/8	3/4-16	1	4	1-8	8-1/4	2	5-1/2
12	12-3/4	2	3-3/4	11	7-3/4	13.31	1	6-3/8	7/8	3/8	2-11/16	3/4-16	1	4	1-8	8-1/4	2	7-1/4
14	14-3/4	2-1/4	3-7/8	12-5/8	8-3/4	15.40	1-1/4	7-3/8	1-1/16	3/8	3-3/16	7/8-14	1-1/4	4-1/2	1-1/4-7	9-3/8	2-3/8	8-3/8