FRASER PUMP & engineering

18 August 2006

SUBAQUABRADE

COMPRESSOR SELECTION/COMPRESSED AIR CONSUMPTION

The minimum compressor delivery pressures shown in the table below, includes the normal maximum nozzle pressure required over the ambient water pressure for cleaning encrusted, coated or corroded steel to clean white metal, which for *SubAquabrade* is 50 psig (3.52 kg/cm^2).

For particularly difficult coatings removal, or for cutting concrete weight coat from undersea pipelines, an increase in nozzle pressure up to a maximum of 80 psig.(5.63 kg/cm^2) may be beneficial, and should, if possible be allowed for when selecting a suitable compressor.

NOZZLE SIZING, the Chart is for a 1/2 inch nozzle. For 3/8th inch nozzles the air capacity required is 65% of the chart readings. For 1/4 inch nozzle air capacity required is 35% of chart readings. If sufficient air volume is not available try reducing nozzle size.

FOR SINGLE NOZZLE working for any given depth read straight across from that depth in the left hand column to select the required working pressure from the centre columns, and the compressor capacity in "free air delivered" (F.A.D.) from the right hand columns.

DUAL NOZZLE SUBAQUABRADES, that is with two divers or two R.O.V.'s working from the same *Subaquabrade* machine and both cleaning at the same time:-

A. Select the **deepest** of the two working depths and read across to the centre column to find the compressor delivery pressure required. That is the minimum supply pressure needed, irrespective of whether one or both nozzles are being used.

B. To find the compressor capacity required for two nozzles working together, in either cubic feet per minute (cfm) F.A.D. or cubic metres per hour (m^3/hr) F.A.D. we have to select the indicated capacity from the chart for BOTH DEPTHS and ADD THEM TOGETHER.

NOTES

1. The figures for pressures relative to depth assume a specific gravity (SG) of 1.1 for sea water. Local conditions may have an effect on the actual SG and therefore the operating pressure required.

2. IMPORTANT If two or more compressors are connected together through a common "header" or delivery hose in order to provide the required capacity, then it is ESSENTIAL that they both have the same discharge (delivery) pressure into that header. Most modern air compressors are fitted with internal regulators which can be pre-set for this purpose, but if in doubt consult the compressor supplier or manufacturer first.

3. The direct linking together into a common header of *dissimilar* compressor types - e.g. one screw type compressor plus one reciprocating (piston) type - should be avoided.

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Aquabrade, Harbour Aquabrade, and SubAquabrade
COMPRESSOR SELECTION / COMPRESSED AIR CONSUMPTION CHART

WORKING DEPTH		MINIMUM COMPRESSOR DELIVERY PRESSURE		MINIMUM COMPRESSOR CAPACITY(F.A.D.)	
FEET	METERS	P.S.I.G.	KG/CM²	C.F.M	M³/HR
33^^	**10**	**70**	**4.92**	**330**	**561**
50	15	74	5.20	330	561
100	30	98	6.89	350	595
150	46	122	8.58	373	634
200**	**61****	**146**	**10.27**	**397**	**675**
250	76	169	11.88	423	719
300	91	193	13.57	451	766
350	106	217	15.26	482	819
400	122	241	16.95	516	877
450	137	265	18.64	554	941
500	152	289	20.32	596	1013
550	167	312	21.94	642	1091
600	182	336	23.63	694	1179
650	198	360	25.32	750	1274

^^ maximum working depth for Harbour Aquabrade
** maximum working depth for “Shallow Water” SW versions of Subaquabrade

NOTE:
THE ABOVE FIGURES ARE BASED ON USE OF A SINGLE ½” (13mm) BORE NOZZLE
FOR 3/8TH INCH (9-10MM) NOZZLE USE 65% OF AIR CAPACITY FIGURES
FOR 1/4 INCH (6.5MM) NOZZLE USE 35% OF AIR CAPACITY FIGURES

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