

Maximum continuous withdrawal rate from the Hobbyweld Acetylene (DA) cylinder is estimated to be 1/5 of the cylinder contents per hour. Short term use (few minutes maximum) with recuperation rest period of 30 minutes to 1 hour before reuse. 1/4 of the cylinder contents per hour.

Maximum Continuous Flow - $0.81\text{m}^3 \times 1/5 = 162$ litres per hour

Maximum Short Term Intermittent Flow - $0.81\text{m}^3 \times 1/4 = 202$ litres per hour

Welding Nozzles

The ideal operating pressure at the blowpipe inlet connection would need to be 2 psig (0.14 bar) for each of the welding nozzles:-

Lightweight welding tips

#1	26 litres per hour
#2	56 litres per hour
#3	88 litres per hour
#5	142 litres per hour
#7	198 litres per hour

Swaged type 3 or 5 welding tips

#1	26 litres per hour
#2	56 litres per hour
#3	88 litres per hour
#5	142 litres per hour
#7	198 litres per hour

DH welding tips

#1	26 litres per hour
#2	56 litres per hour
#3	88 litres per hour
#5	142 litres per hour
#7	198 litres per hour

Lead Burning Nozzles

The ideal operating pressure at the blowpipe inlet connection would need to be between 1 and 2 psig (0.007 to 0.14 bar) for each of the lead burning nozzles:-

Model "O" lead burning tips

#1	4.5 litres per hour
#2	11 litres per hour
#3	28 litres per hour
#4	57 litres per hour
#5	117 litres per hour

Cutting Nozzles

ASFN - sheet metal nozzle with single pre-heat outlet
Cut 0.8mm to 3.0mm DA flow - 110 litres per hour

The ideal operating pressure at the blowpipe inlet connection would need to be 2 psig (0.14 bar) for the ASFN cutting nozzle.

Note: No other cutting or process nozzles should be used with this size DA cylinder.

Determining adequate DA flow

Having followed the correct opening procedure, the correct acetylene flow setting for any oxy/acetylene nozzle may be determined when the acetylene is ignited.

1. Light the acetylene only to obtain a large yellow flame
2. Open the torch control valve until the yellow acetylene flame has no black soot/smoke emanating from the tips of the flame - this is the correct design flow for the nozzle.
3. Once the black soot has been eliminated, open the oxygen control valve and set a neutral flame.

Should it not be possible to increase the acetylene flow to the point where the yellow flame does not smoke, then there is not enough acetylene flow which means the nozzle will under run causing operating problems. You can increase your available flow by coupling DA cylinders together.

Information on other UK nozzle ranges.

Note: These are the smallest nozzles in the respective nozzle range, all consume too much acetylene from the Hobbyweld 0.81m³ DA cylinder

Lt. Wt. heating head	DA flow 365-465 litres per hour
AFN 1/32 3-6mm cutting	DA flow 225-285 litres per hour
ANM 1/32 3-6mm cutting	DA flow 280-480 litres per hour
AGNM #13	DA flow 905 litres per hour
AHT #25	DA flow 1100 litres per hour

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resources: Terry Hill - Nozalls 10/12/2012