7. Final inspection

Setting, final inspection

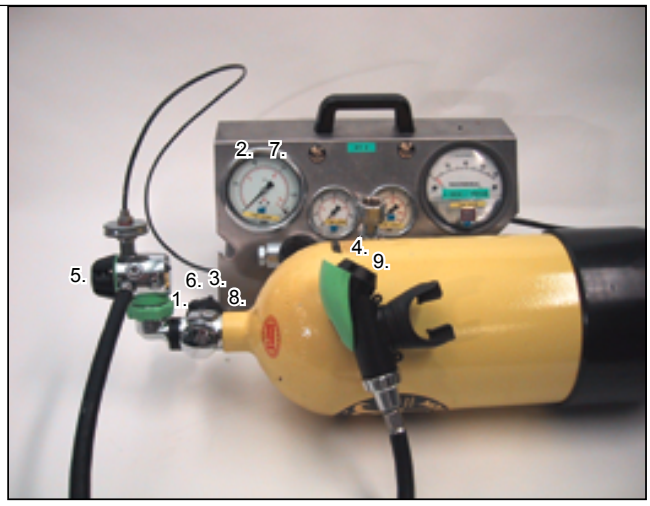
Property 1st stage	Setting SI units	Setting common units	Setting US units
P1	30 MPa	300 bar	4351 psi
P2	>750 kPa	> 7.5 bar	>109 psi
P3	2 MPa	20 bar	290 psi
P4@p1, P4@p3.	800 – 1100 kPa (unadjustable) 840 – 860 kPa (adjustable)	8bar - 11bar (unadjustable) 8.4bar - 8.6bar (adjustable)	116 - 160 psi (unadjustable) 122 - 125 psi (adjustable)
P5	>750 kPa	> 7.5 bar	>109 psi
i	+/- 110 kPa	+/- 1.1 bar	+/-16 psi
R	max 100 kPa	max 1 bar	max 15 psi
Q	0.12 m^3/h	2 L/min	0.07 ft^3/min
Internal leaktightness		12 ml/h* * Corresponds to a pressure climb of 0,01 bar/min for a regulator with a 70 cm hose.	
Property 2nd stage	Setting SI units	Setting common units	Setting US units
CP (cracking pressure)	274 Pa to 392 Pa	28 to 40 mm.w.c	1.1 to 1.6 inch of water

Method for regulators cleaned for EAN40 and oxygen use

Unless you do have access to an oxygen cleaned test station, you must ensure you do not re-contamine the regulator when doing the final adjustment and setting. Re-contamination can be caused by e.g. contaminated test gas, contaminated gauge fittings, contaminated regulator connection, contaminated test station pipings etc.

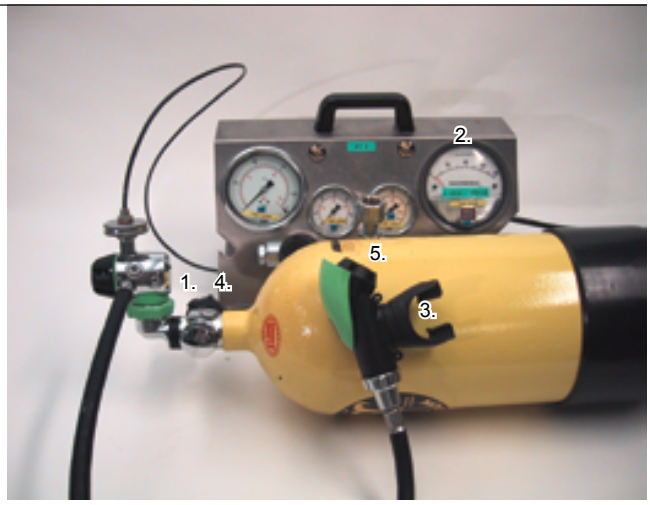
FIRST STAGE SETTING:

1) Slowly open cylinder valve
2) Check IP
3) Close valve
4) Purge
5) Adjust IP (1/2 turn = 1.5 bar)
6) Open valve
7) Check IP (loop to 3)
8) Close valve
9) Purge



SECOND STAGE SETTING:

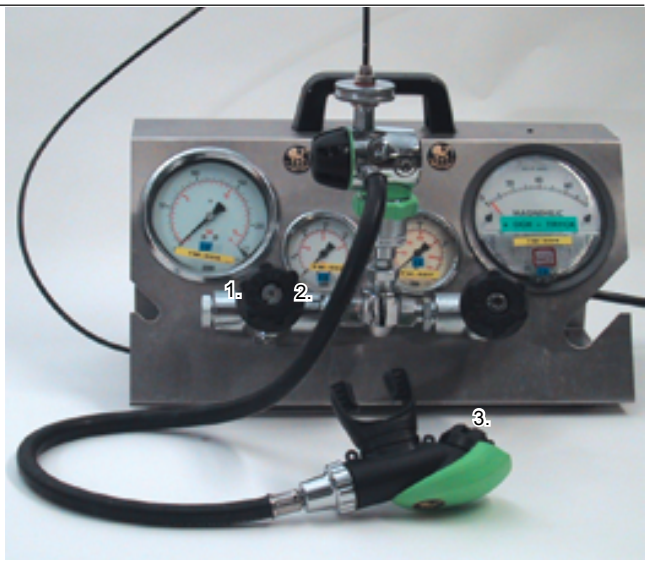
1) Open valve
2) Check cracking pressure
3) Adjust cracking pressure
4) Close valve
5) Purge



Method for all other regulators

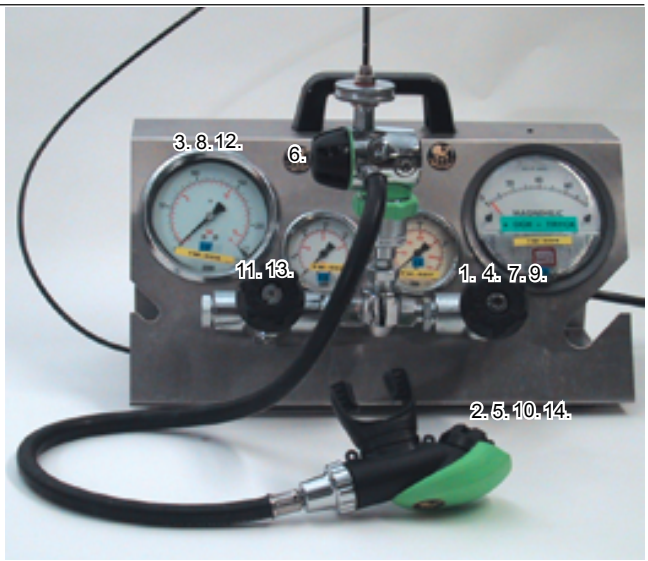
SYSTEM CHECK:

1) Open left valve 20 bar
2) Close left valve 20 bar
3) Purge



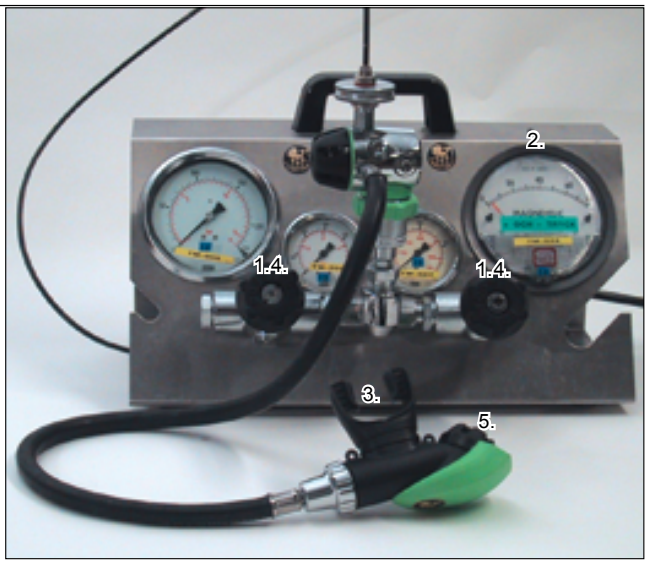
FIRST STAGE SETTING:

1) Open right valve HP (200-300bar)
2) Purge
3) Check IP (go to 9 if OK)
4) Close right valve
5) Purge
6) Adjust IP (1/2 turn = 1.5 bar)
7) Open right valve
8) Check IP (loop to 4)
9) Close right valve
10) Purge
11) Open left valve (20 bar)
12) Check IP
13) Close left valve
14) Purge



SECOND STAGE SETTING:

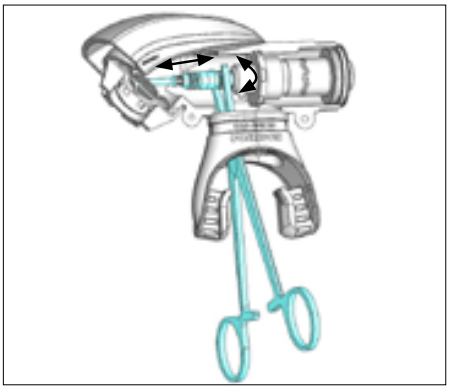
1) Open either left or right valve, whichever gave the lowest IP
2) Check cracking pressure
3) Adjust cracking pressure
4) Close valve
5) Purge

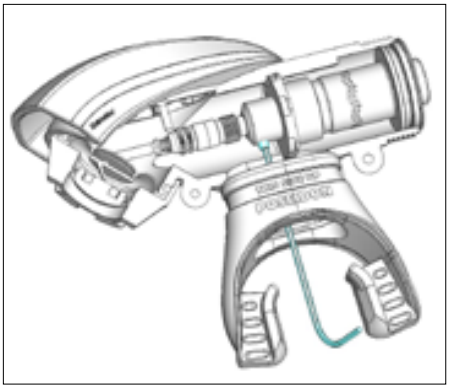


ADJUST THE 2ND STAGE TO 28-40 MM.W.C.

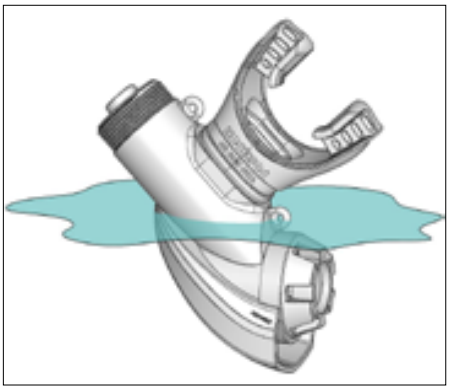
1) Hold the mouthpiece-part of the cracking pressure gauge tight to the outlet of the 2nd stage

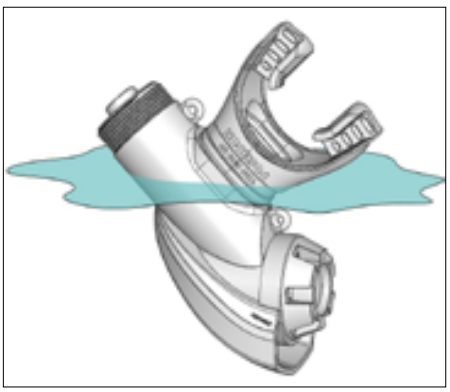
2) Take a few rather slow and long inhalations from the mouthpiece part and simultaneously check the pressure gauge needle. It shall during inhalation reach a maximum of 28-40 mm.w.c, and at the end of the inhalation decrease again. If the reading is too high, unscrew the stopscrew as shown in the illustration below-right. Screw the valve tube away from the diaphragm as shown in illustration to the right. If the reading is too low, screw the valve tube towards the diaphragm. Once the reading is correct tighten the stopscrew and then doublecheck the reading.





3) Alternatively: immerse the 2nd stage as shown in the illustration. A sizzling sound from the servo-valve opening shall occur within the two markings.





TIP!

Some divers like the setting extremely light, and some prefer a higher cracking pressure. Ask your customer. Technically, Xstream can be adjusted from 0 mm.w.c to > 100 mm.w.c. The risk for a free flow increases with decreasing cracking pressure. Below 25 mm.w.c in a certain attitude (exhalation diaphragm the shallowest and inhalation diaphragm the deepest), the regulator inhalation valve will stay permanently open, bubbleing. Above 40 mm.w.c the breath doesn't feel good.

8. Technical data

Torque table

Part subject to torque wrench use	Newton Meter Nm	Inch Pounds Inch-lbs	Foot Pounds Ft-lbs	Kilogram Meter Kgm
Blind screws	6 +/- 1	53 +/- 9	4.4 +/- 0.7	0.6 +/- 0.1
First stage connection stem to body	30 +/- 2	265 +/- 18	22 +/-2	3 +/- 0.2
Centre piece	6 +/- 1	53 +/- 9	4.4 +/- 0.7	0.6 +/- 0.1
Lower centre piece	3 +/- 1	27 +/- 5	2.2 +/- 0.4	0.3 +/- 0.05
2nd stage	3 +/- 1	27 +/- 5	2.2 +/- 0.4	0.3 +/- 0.05
Hose to 1st stage	6 +/- 1	53 +/- 9	4.4 +/- 0.7	0.6 +/- 0.1
Cover screws 1st stage	6 +/- 1	53 +/- 9	4.4 +/- 0.7	0.6 +/- 0.1
Valve house nut	3 +/- 1	27 +/- 5	2.2 +/- 0.4	0.3 +/- 0.05
Servo valve	Firm by hand	Firm by hand	Firm by hand	Firm by hand
Hose to 2:nd stage	Firm by hand	Firm by hand	Firm by hand	Firm by hand

Product data

General:		
Maximum Operational depth	Certified to 200 m (656 ft)	
Typical Work of Breathing 50m on air, 62.5 l/min	1.5 J/l (see diagrams below)	
Typical Work of breathing 200m on Trimix, 62.5 l/min	1.7 J/l (see diagrams below)	
Approved gas	Dive	Air / Trimix
	Deep	Air / Trimix / EAN 40*
	Duration,EN 144-3	Air / EAN 50 / 99,95% Oxygen
	Deco,EN 144-3, Oxygen	Air / 99,95% Oxygen
Maximum working pressure	300 bar (4351 psi)	
Cold water performance	Exceeding EN 250 requirements for cold water use	
Approvals	Type Approved acc. to EU Directive Personal Protective Equipment 89/686/EEC	
Applicable Performance Standards	EN 738-1, clause 6.6, 6.6.2 NORSOK U-101 clause 5.2-5.5, 5.9 EN 250:2000	
Cleaned to hydrocarbon levels < 50mg/m2 & particle level X	Dive	No
	Deep	No
	Duration/EN 144-3	Yes
	Deco/Oxygen	Yes
O-ring materials	Dive	Nitrile, EPDM,Viton
	Deep	Nitrile, EPDM,Viton
	Duration/Oxygen/EN 144-3	Viton, EPDM, Nitrile
	Deco/EN 144-3	Viton, EPDM, Nitrile
Lubricants	Poseidon 1; BAM appr. 270 bar @ 100°C Poseidon 2; BAM appr. 140 bar @ 100°C Poseidon R; silicone oil.	
Colour	Dive	Grey
	Deep	Black
	Duration/EN 144-3	Green
	Deco/Oxygen	White
	Octopus	Yellow
Warranty	24 months (if serviced)	
2nd stage		
Flow Rate	>2150 l/min STPD (>76 scfm)	
Inner Volume (dead space)	49.5 ml (3 in^3)	
Weight	I52 g (5.4 oz)	
Technique	Upstream servo-valve	
Safety valve opening pressure	18 +/- 1 bar (261 +/- 14 psi)	
Swivelling	Around axis, can be used either side	
Material	ASA, Brass, TPU, Silicone, PU	
Venturi assist	Automatic	
Inhalation control	Automatic	
Surgical cord	Silicone	
Dismountable w/o tools	Yes	
Anatomic Mouthpiece	4532 Poseidon AIR	

*Regulators and 1st stages with serial number 1500001 or higher or regulators and 1st stages that has been serviced with the EAN40 service kit.

1st stage		
Flowrate (l/min)	>4000 l/min (>141 scfm)	
Nominal inter-stage pressure	8.5 bar (123 psi)	
Weight (with 70cm hose)	Deep Duration/EN 144-3 Deco/EN 144-3	920 g
	Dive Deep 90 Dur. 90/EN 144-3	1100 g
Anti-Freeze protection	Built in T.D.A	
Technique	Rolling diaphragm	
Valve technique	Ball valve	
Seat material	Zytel	
Test pressure	450 bar (6526 psi)	
Ports*	Dive	5 IP (UNF 3/8") / 2 HP (UNF 7/16")
	Deep Duration/EN 144-3 Deco/EN 144-3	4 IP (UNF 3/8") / 1 HP (UNF 7/16")
	Deep 90 Dur. 90/Oxygen/EN 144-3	5 IP (UNF 3/8") / 2 HP (UNF 7/16")
Connection	Dive	DIN 477, G5/8" – Yoke adapter available
	Deep	DIN 477, G5/8" – Yoke adapter available
	Duration	DIN 477, G5/8" – EN 144-3 (upgradeable)
	Duration & Oxygen EN 144-3	EN 144-3/M26x2
	Deco	DIN 477, G5/8" – EN 144-3 (upgradeable)
	Deco EN 144-3	EN 144-3/M26x2
Material	Brass, plastics, stainless steel	
Hose		
Standard lengths hose	0.7 m (2.3 ft) 0.9 m (3 ft) 1.6 m (5.2 ft) 2.15 m (7 ft)	
Burst pressure	>100 bar (1450 psi)	
Pull strength	>1000 Newton (225 lbf)	
Material	Reinforced NBR/SR	
Safety inspection holes	Both ends	
Wear protecting crimps	Both ends	
Oxygen cleaned	Available	

Some of the older models of the bottom/side mounted Xstream hade 2 IP and 1HP/3 IP 1HP ports. The specified ports for the different models are available from 2005

Conversion tables

Known	Unknown	Multiply by
Bar	psi	14.5
Psi	bar	0.07
mm.w.c	mbar	0.1
mbar	mm.w.c	10
litre	ft^3	0.0353
ft^3	litre	28.32
m	ft	3.28
ft	m	0.305
Nm	poundfoot	0.7375
Poundfoot	Nm	1.356