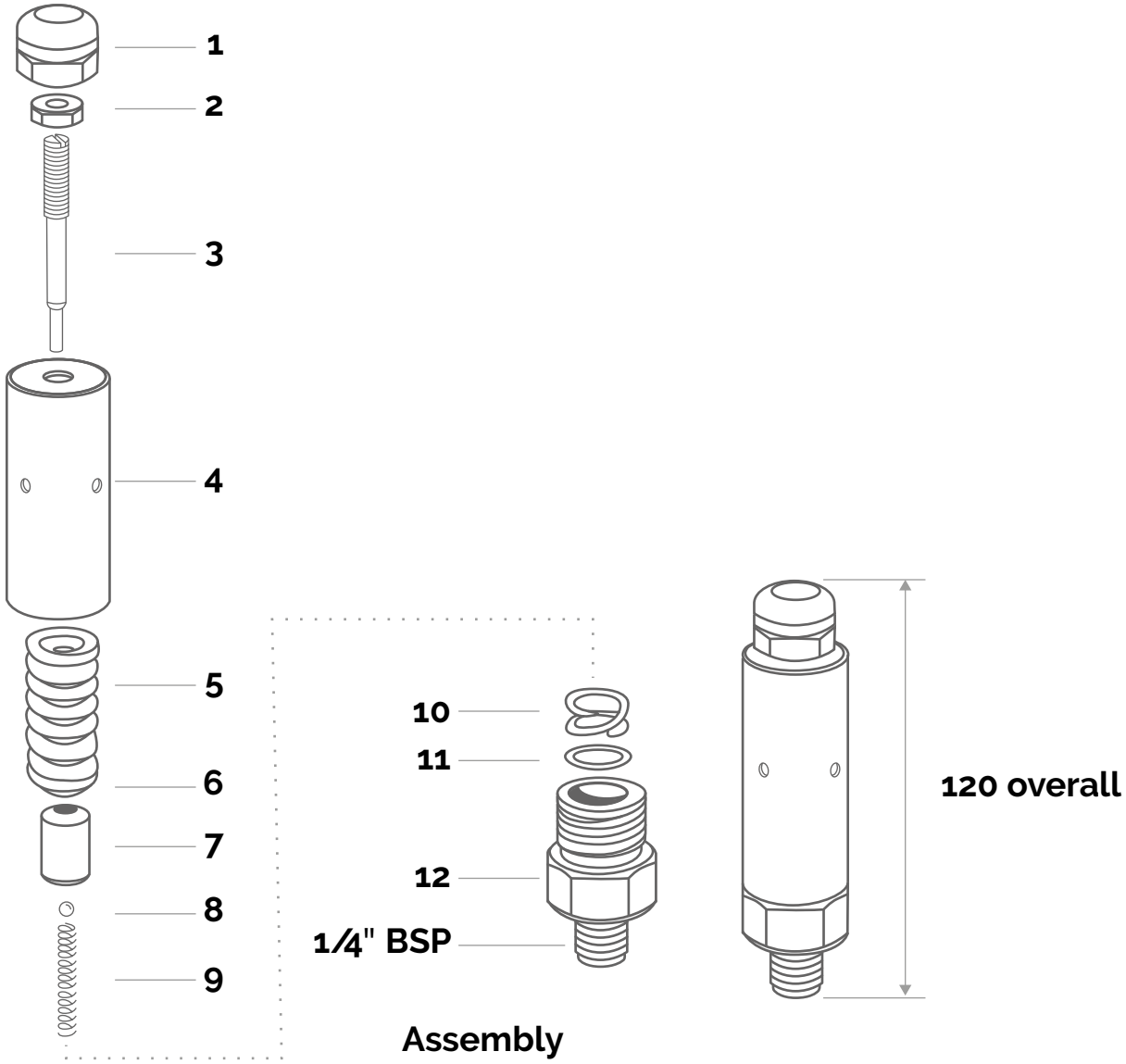

Drawn May 2004
For illustration purposes only, drawings are not to scale.

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3090 MDE Relief Valve Model 35 G 1/4
Adjustable 2000 to 4000 PSI

Item	Part number*	Description
1	M 013612	Dome nut
2	M 013611	Lock nut
3	M 013610	Adjusting screw
4	M 013609	Housing
5	M 013608	Spring-pressure
6	M 013607	Spring cap
7†	M 013606	Acetal piston
8†	M 013605	Ball
9†	M 013604	Spring-seal retaining
10†	M 013603	Anti-extrusion ring
11†	M 013602	O-ring
12†	M 013601	Valve body

*Items available to order upon request only.
†Part of service kit 3090 SK.

PED requirement: The valve body to be pressure tested to 1.5 maximum WP before assembly.

Operating, adjustment and connection instructions

Part Number: 3090 – Connection G 1/4 BSPP Male.

Designed working pressure range: 138 to 276 Bar.

Standard pressure setting as supplied is 207 Bar.

Temperature range: -30°C to +50°C

Proof test pressure: 414 Bar

Torque settings: Not to exceed 35nm (26 ft. lbs)

Design operation

The design principal of this relief valve is based on a double action rising piston. High pressure air enters the valve via the pressure housing **12** and forces the stainl1ess steel ball **8** to effect a pressure seal on the internal seat of the Acetal piston **7** which is free to move vertically within **12** pressure housing. A minor spring **9** maintains contact of the stainless steel ball **8** to the internal seat at all times.

As the pressure increases the piston **7** moves against the major pressure spring **5** which eventually allows the ball to be displaced from it's seat by the projecting adjusting screw **3** previously set and locked with nut **2** at the desired relief pressure. Dome nut **1** is then re-fitted.

Adjustment Instructions: Important information

The design of the valve is such that by rotating the adjuster screw **3** results in a pressure increase when turned anti-clockwise and a decrease to original setting when turned clockwise.

IT IS IMPORTANT THAT THE ADJUSTING SCREW 3 IS NOT SCREWED ALL THE WAY OUT WHILST IN SERVICE OR UNDER PRESSURE.

Adjustment procedure

Remove domed nut **1** revealing the adjusting screw **3** and locknut **2**. It is a sensible precaution with an unknown pressure system where the operator is unsure at what pressure the valve is set at, to initially slacken the locknut **2** and rotate the adjusting screw **3** in a clockwise direction to reduce any initial setting down to a safe limit.

Pressurise the system, monitor line pressure with a gauge and using a screwdriver adjust the screw **3** in an anti-clockwise direction in very small increments at the same time monitoring the gauge pressure reading to ascertain at what pressure the relief valve starts to audibly vent to the atmosphere. Continue adjusting until the desired relief pressure is reached. Holding adjusting screw **3** steady with a screwdriver tighten the locknut **2** then re-fit the dome cap **1**. Now carry out a further pressure check to confirm setting.

WARNING

For use with Air & Group 2 Gases only as defined in PED 97/23/EC

Not to be used in systems that exceed the working pressure and temperature range as stated above.

Only to be used in static situations. Not designed for earthquake situations.

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Flow rates and set pressure/reset

67.6 m^3/hr @ 150 Bar

66.6 m^3/hr @250 Bar

Opening	Max	Reset	Overshoot%
2150	2310	1930	7.5
2400	2500	2140	4.0
3070	3200	2750	4.3
3440	3540	3140	3.0

All above pressures in PSIG.