The series "Hafner on the Rocks" and "Hafner Heavy Metal" are designed for challenging environments and applications.



#### "Hafner on the Rocks"

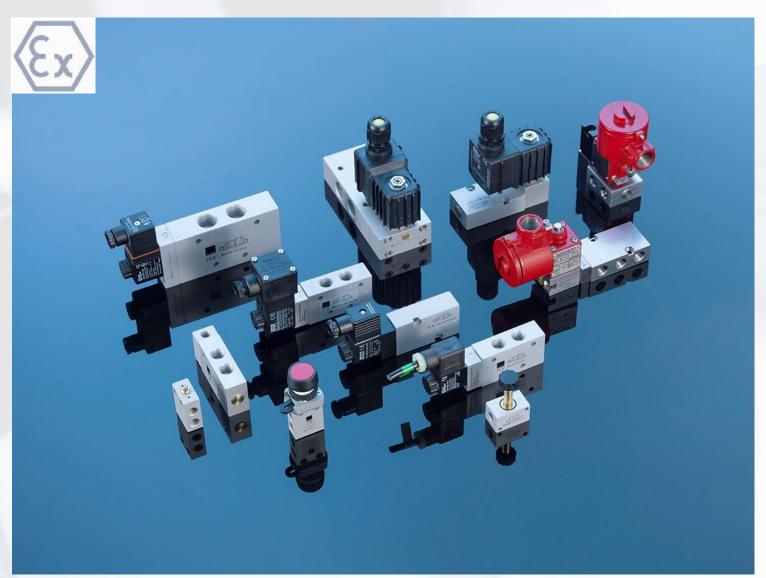
- Temperature range: -50°C to +50°C
- Available in G 1/8", G 1/4" and G 1/2"
- TR-certificate for the Russian market available.
- Also available with ATEX-approved low temperature solenoid systems.

### "Hafner Heavy Metal"

- Valves made from high-grade stainless steel
   316L = 1.4404
- Available in G 1/4" and G 1/2"
- High resistance against aggressive environmental conditions



For explosion hazardous environments, our customers have the choice of a wide range of ATEXapproved valves for zones 1, 2, 21 and 22.



# **Overview of ATEX-approved Hafner products.**

|                                     | Non-Electric Valves  Manually, mechanically and pneumatically actuated                     | Electric Valves (Solenoid Valves)  |  |                                     |   |   |                                      |
|-------------------------------------|--|--|--|-------------------------------------|---|---|--------------------------------------|
|                                     |  | Ex nA  | Exia                                   | Ex m                                | Ex e mb   | Ex dm                                   | Ex d                                 |
| $\langle x3 \rangle$                |  |  |  |                                     |   | 0 |                                      |
| Marking on coil                     | -  | CE (a) II 3G Ex nA IIC T5 Gc X<br>II 3D Ex to IIC T5 Dc X<br>(T6 coil: T6/80°C Dc) | CE @ II 2G Ex ia IIB/IIC T6 Gb         | CE  II 2G Ex mb IIC T4 Gb           | CE  Il 2G Ex e mb IIC T6 Gb   | CE  II 2G Ex db mb IIC T5 Gb            | CE (a) II 2G Ex db IIC T6 Gb         |
| Marking on valve (standard version) | CE ⑤ 112G/D c T6 - 10°C ≤ Ta ≤ 50°C<br>alternative;<br>CE ⑥ 113G/D c T6 - 10°C ≤ Ta ≤ 50°C | CE @ #3C/Dc T5 - 10°C s Ta s 50°C  | CE (a) II 2Q/D c T6 - 10°C s Ta s 50°C | CE 12Q/DcT4-10°CsTas50°C            | CE € II2G/D c T4 - 10°C ≤ T8 ≤ 60°C<br>II2G/D c T6 - 10°C ≤ T8 ≤ 50°C | CE (a) 112G/D c T5 -10°C = Ta = 50°C    | CE (a) 112G/D c T6 -10°C s Ta s 40°C |
| Stainless steel                     | On request   | ✓.   | ¥                                      | · ·                                 | ·   | 4                                       | ~                                    |
| Low temperature 💥                   | On request   | -  | -40°C                                  | Only -20°C                          | -40°C   | -50°C                                   | -40°C<br>(-50°C on request)          |
| Electrical connection               | •  | Connector for 6-8 mm cable diameter  | Connector for 6-8 mm cable diameter    | Moulded cable<br>(3 meter standard) | Junction box  | Junction box                            | Junction box                         |
| IECEx Approval                      | -  | -  | ¥                                      | ·                                   | ·   | -                                       | On request                           |
| Product Group                       | II (I not included)  | II (I not included)  | II (I not included)                    | II (I not included)                 | II (I not included)   | II (I not included)                     | II (I not included)                  |
| Category / Zones                    | 2G/D (zones 1,21,21,22)<br>alternative: 3G/D (zones 2,22)                                  | 3G/D<br>(zones 2,22)   | 2G/D<br>(zones 1,21,2,22)              | 2G/D<br>(zones 1,21,2,22)           | 2G/D<br>(zones 1,21,2,22)   | 2G/D<br>(zones 1,21,2,22)               | 2G/D<br>(zones 1,21,2,22)            |
| Ignition protection                 | Constructional safety  | Non-sparking   | Intrinsic safety                       | Encapsulation                       | Increased safety/<br>Encapsulation                                    | Encapsulation/<br>Flameproof            | Flameproof                           |
| Explosion group                     | Only applies for solenoid valves   | IIC<br>(includes IIA and IIB)  | IIC<br>(includes IIA and IIB)          | IIC<br>(includes IIA and IIB)       | IIC<br>(includes IIA and IIB)   | IIC<br>(includes IIA and IIB)           | IIC<br>(includes IIA and IIB)        |
| Temperature class                   | T6 (includes T1-T5)  | T5 coil includes T1-T4<br>T6 coil includes T1-T5                                   | T6 (includes T1-T5)                    | T4 (includes T1-T3)                 | T4 coil includes T1-T3<br>T6 coil includes T1-T5                      | T5 (includes T1-T4)                     | T6 (includes T1-T5)                  |

## Hafners' ATEX poster:

Ideal for internal use and giveaway to customers.





Next to individual valves and components, Hafner is also offering complete systems and control cabinets.

### Normally we use a standardized box to build our control cabinets:

• Size: 400x280x155 mm

IP 66 protection

• Material: Stainless steel AISI 304







Further information can be found in our brochure **Control Cabinets Built by Hafner**.