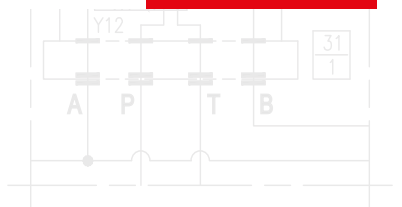
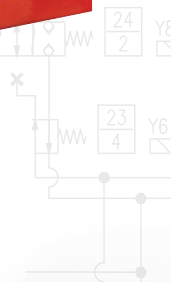
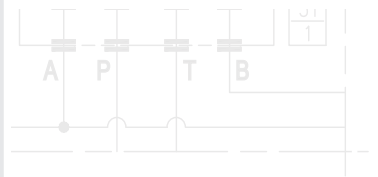
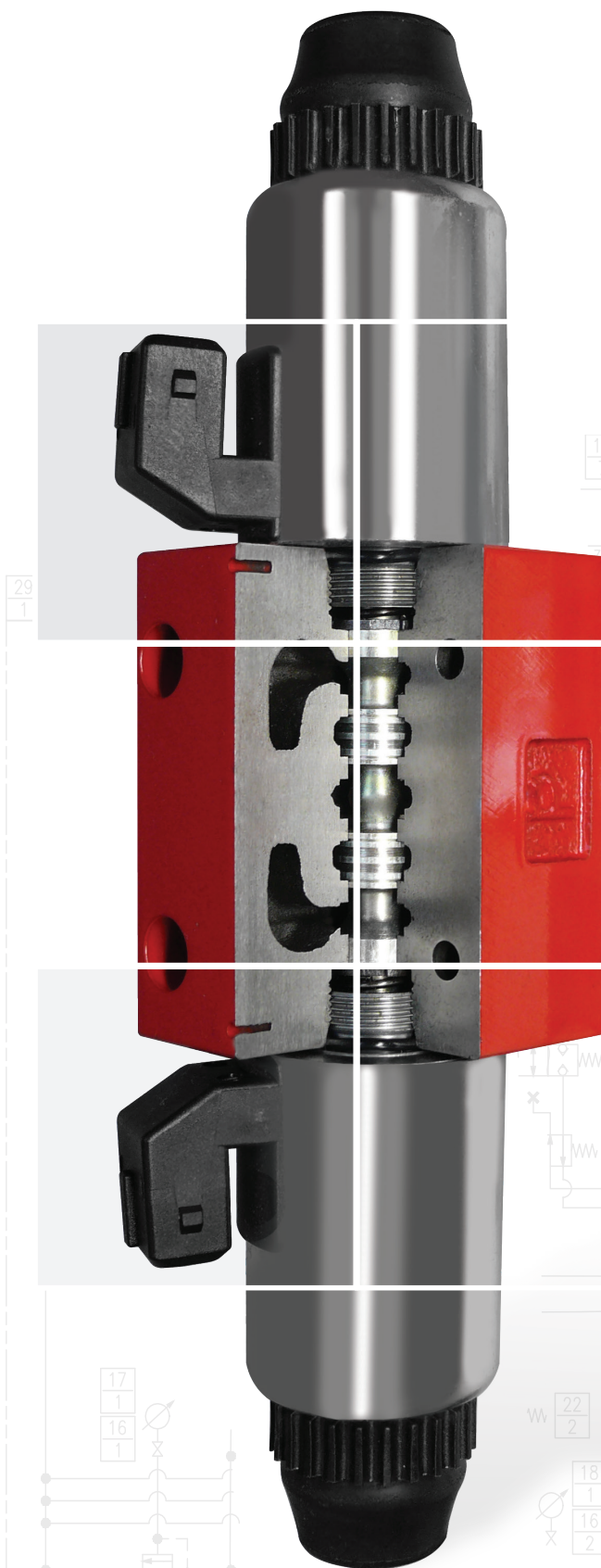
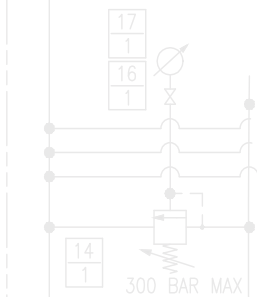


aidro



we create for you



aidro



Experts in Hydraulic Products
CETOP hydraulic components and customized systems

Production and Innovation
Fluid Power parts, valves and manifolds



Additive Manufacturing Solutions
A new generation of hydraulic components

Our Applications



MOBILE
HYDRAULICS



INDUSTRIAL
HYDRAULICS



ENERGY



AEROSPACE

What we do



Traditional hydraulics

A wide range of valves suitable for the creation of complex hydraulic circuits. From Cetop components to cartridge valves for integrated solution, we can provide a complete range of components for your applications.



Additive manufacturing

Aidro has introduced Additive Manufacturing to create a new generation of hydraulic components and to overcome the limits of traditional manufactured parts. The 3D printing technology allows fast lead time and better performances thanks to the optimization of the internal channels.

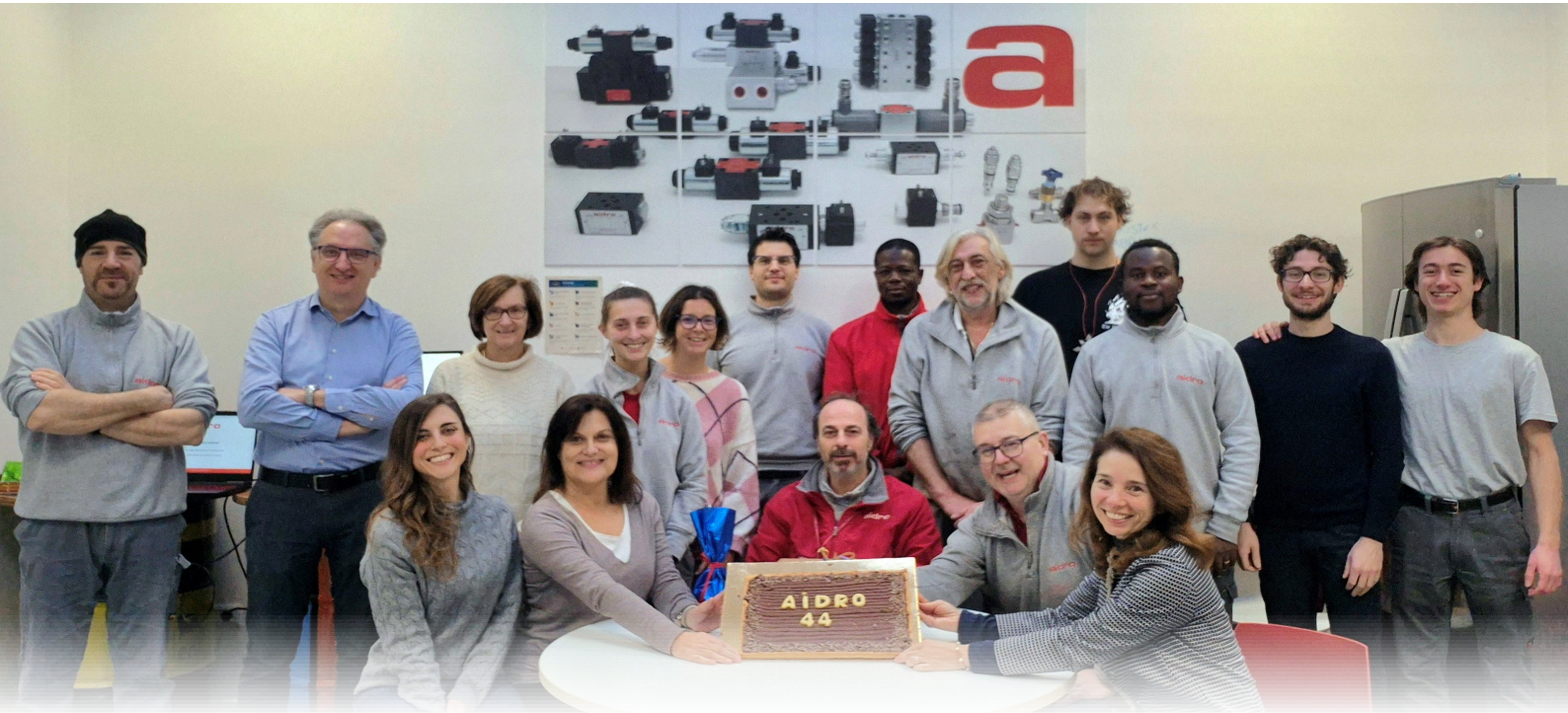


Engineering service

Aidro supports its customers in providing support in design, digitalization and additive manufacturing, also offering training courses on specific topics, process qualification and sustainability evaluation.



Aidro



In **1982**, Aidro was founded by Mr. Paolo Tirelli, an Italian engineer with a vast experience in the hydraulics sector.

During **2006**, Aidro received the Quality Certification ISO 9001 for the design and production of hydraulic valves and components.

Thanks to the success of its activities, in **2009** Aidro established a new headquarters in Taino (Varese). In **2012** Valeria Tirelli succeeded her father as CEO of Aidro.

Starting from **2017**, Aidro introduced the new technology Additive Manufacturing (AM), enabling the production of Metal 3D Printed products in the hydraulics sector.

In **2018**, Aidro adopted new Quality Management Systems and received AS/EN 9100 Certification, for Hydraulics and Additive Manufacturing.

The company, now led by the siblings Tommaso and Valeria Tirelli, has expanded its activity to other sectors like aerospace, energy and oil&gas.

In **2022** Aidro celebrated its 40th anniversary.

In **2023** Aidro Achieves Industry-First Global Additive Manufacturing Manufacturer Certification from DNV for Metal 3D Printing with Two Technologies, Laser Powder Bed Fusion and Metal Binder Jetting.

In **2025**, Aidro extends its DNV-ST-B203 facility qualification to include AM Nickel Alloy Type 718.



MANAGEMENT SYSTEM CERTIFICATE

Certificate no.: 277307-2018-AQ-ITA-ACCREDIA Initial certification date: 29 October 2018 Issue Date: 29 October 2021 Expiry Date: 28 October 2024

This is to certify that the management system of
A.I.D.R.O. S.r.l.
Via Prati Bassi, 36 - 21020 Taino (VA) - Italy

has been found to conform to the Quality Management System standards:
EN 9100:2018 and ISO 9001:2015
(technically equivalent to AS9100D and JISQ9100:2016)

and has been audited in accordance with the requirements of EN 9104-001:2013 and ACCREDIA Technical Regulation RT-18.

Type of certification structure: Single Site

This certificate is valid for the following scope:
Design, manufacture and trade of control valves and components for the adjustments and the control of hydraulic systems and parts produced by additive manufacturing.
Progettazione, fabbricazione e commercializzazione di valvole e componenti di regolazione e controllo per applicazioni oleodinamiche e particolari realizzati mediante tecnologie additive.

Sector IAF: 17, 18, 19



Statement of Approval No. : LH/1782

This is to Certify that
AIDRO-

**VIA PRATI BASSI 36
21020 TAINO VA
ITALY**

is hereby approved as a Supplier to

Leonardo Helicopters

in accordance with QRS01 'Quality Requirements for Suppliers',
the scope of which is defined within the attached
Scope of Approval

Date of Issue: 29 September 2021



CERTIFICATE OF QUALIFICATION

Document No:
COQ1533366-1

This is to certify:

That
Aidro Srl
Via Prati Bassi, 36, 21020 Taino VA, Italy

is a qualified manufacturer of:

Additive Manufacturing of metallic parts

in accordance with
DNV-ST-B203 and DNV-SE-0568 Module B

and the following particulars:

AM Facility qualified	Aidro Srl, Via Prati Bassi, 36, 21020 Taino VA, Italy
AM Technologies qualified	1. Laser beam powder bed fusion (PBF-LB) to AMC 3 level 2. Binder jetting technology (BJT) to AMC 1 level
BPQs qualified	1. AM Stainless Steel Alloy (UNS S31603) for PBF-LB 2. AM Nickel Alloy 718 (UNS N07718) for PBF-LB 3. AM Precipitation Hardening Stainless Steel (UNS S17400) for BJT
Parts qualified	1. Valve body, AMC 3 level as per manufacturer's own specification, PBF-LB and UNS S31603 material, see page 2 & PPS for details. 2. Manifolds family, AMC 3 level in AM Nickel Alloy UNS N07718, see page 2 & PPS for details.

Reference documents:

- Facility description: FD-01
- Audit comments: Audit-01 issue 1
- BPQ records: for PBF-LB, BPQR_S1832_31HL-Adum_N7, BPQR_S1832_DNV_N718_API6ACRA-Adum_N9 and for BJT, BPQR_174PH-BJPQR-ID64_75um_MBL_01
- PQ records: PQR-23000093 issue 0 & PPS-23000093 for valve body & PQR-COT00076.76.80.90-R01 for Manifolds

Issued at Hevik on 2025-06-10

This Certificate is valid until 2030-06-09.

Technical Authority: Sastry Yagnanna Kandukuri



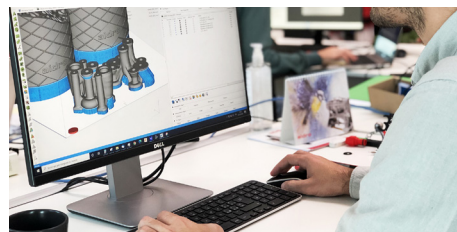
for DNV
We guarantee the integrity, objectivity and confidentiality of our certification activities.

Sandra Loken
Head of Public Markets & Sales

Activities

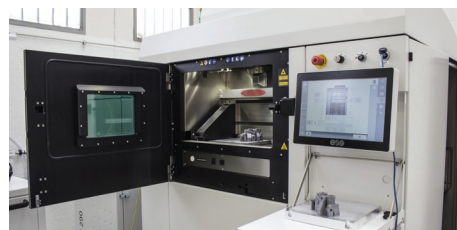
Design

Technical competence, vast experience and creativity are the basis to design hydraulic solutions that satisfy our customers' needs.



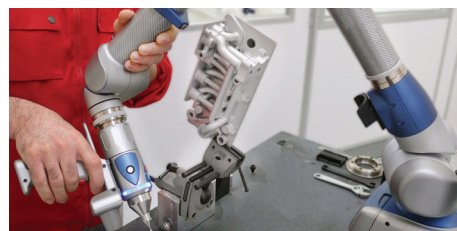
Production

Our lean, efficient and flexible organization provides products that meet our customers' expectations in terms of quality and delivery times.



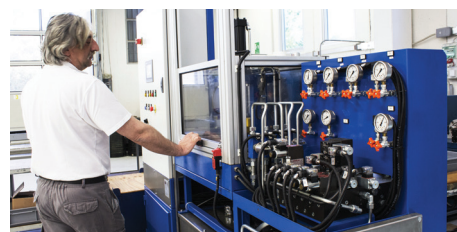
Testing

Aidro provides a wide range of tests on material properties, pressure resistance, mechanical and micro-structural properties, non-destructive test, functional test and dimensional 3D scan control.



Research & Development Fast-Prototype

We believe in the importance of time and a fast response to the customers' requests.



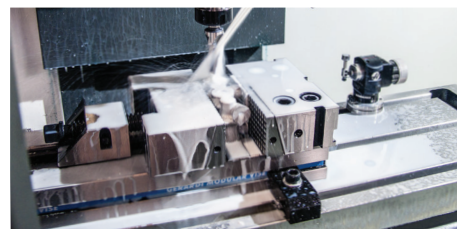
Process Qualification

Quality Management System EN/AS 9100 and Process Qualification in accord to API20S, DNV ST-B203 and customers specifications.



CNC finishing

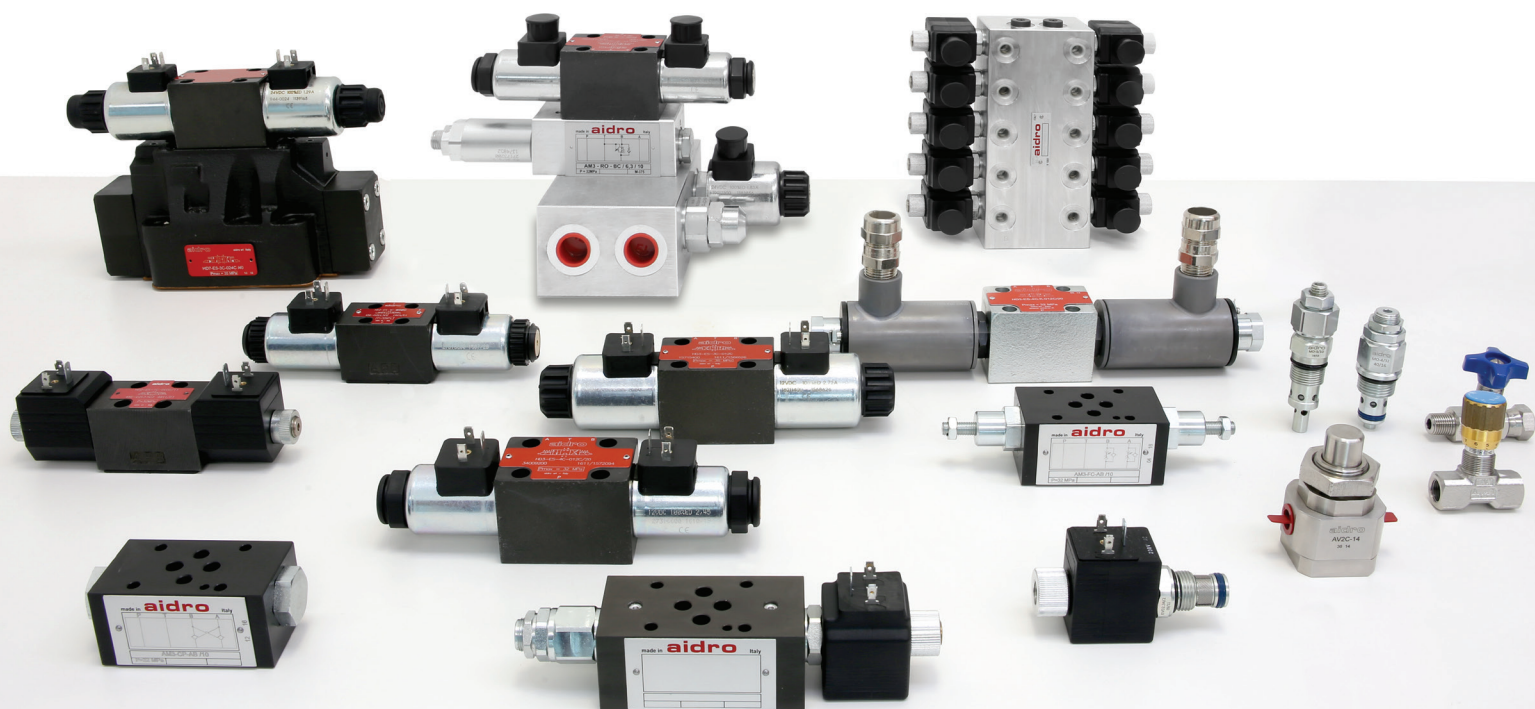
Machining of cavities, surfaces finishing and other post-processing are available for our customers.



Post Treatment

Through machining, surface finishing, heat treatments, and testing, parts are optimized for demanding industrial applications.





We like to do things well done!

All our activities are undertaken carefully and we offer a wide range of hydraulic valves and blocks: from CETOP components to cartridge valves. Our Company has a complementary portfolio of products and solutions able to converge into integrated hydraulic systems.

Our attention to quality is guaranteed by the ISO 9001 Certification. The raw materials and components are produced in Italy or in EU countries.



Our production is 100% tested and the goods are meticulously packed in order to ensure our customers receive the best products on time.

Hydraulics Products



Solenoid CETOP Valve

- Directional Control Valves
- Flow Valves
- Check Valves
- Pressure Control Valves
- Proportional Valves



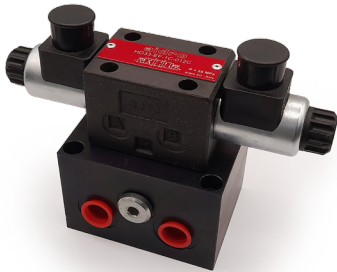
Explosion Proof valve

We offer a wide range of ATEX valves such as on-off, proportional and poppet valves, with certification Gas and Dust and Temperature class from T5 to T6.



Cartridge Valve

- Directional Valves solenoid operated
- Poppet type and Spool type in different sizes
- Pressure reducing and pressure relief
- Flow regulators



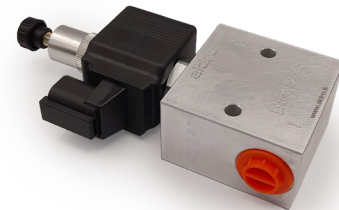
System and special products

Our design and technical know-how allow Aidro to develop new systems and special products with particular surface treatments to fulfill the customers' needs.



Manifolds and accessories

We have developed a new series of mini power packs with a compact design, suitable for DC and AC supply. Panels and Manifold Blocks of different sizes are available: CETOP 02 (NG04), CETOP 03 (NG06) and CETOP 05 (NG10),

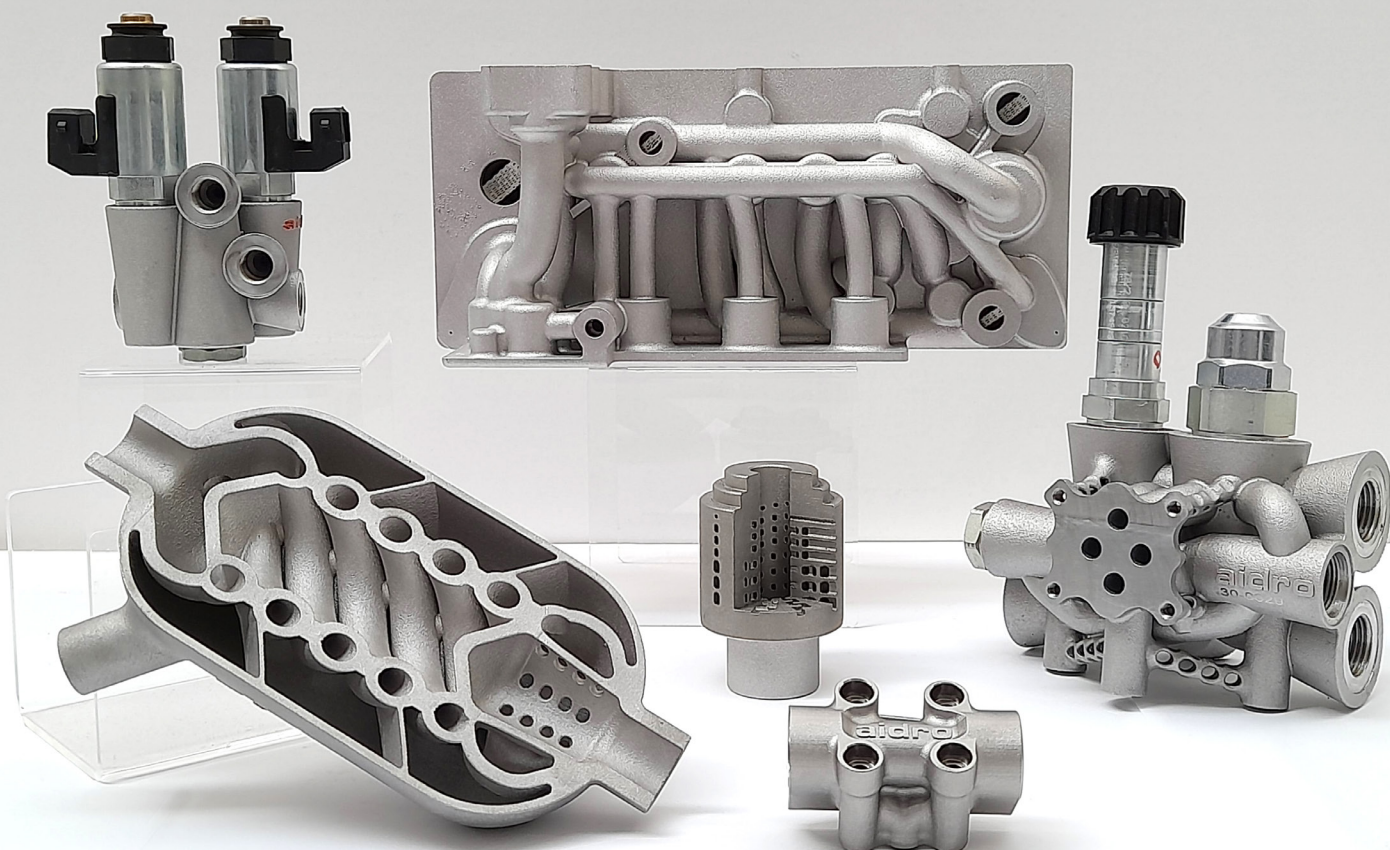


moreover in line assembly body for SAE08 and SAE10 cartridges. Aidro provides many accessories such as connectors, coils and reliable pressure switches.



Additive Manufacturing

Aidro has introduced **Additive Manufacturing, or Metal 3D Printing**, to create a new generation of hydraulic solutions and to overcome the limits of traditional manufactured hydraulic components.



This new technology allows to produce **lightweight and space saving products** and provide a better performances thanks to the optimization of the internal channels. The fast lead time is an advantage for prototypes that can be tested and marketed in a competitive time. Additive manufacturing is also able to produce functional parts with complex geometries made with a wide range of high quality metals such as **Stainless**

Steel, Aluminium, Inconel, Maraging steel.

Aidro designs and produces **3D printed hydraulic systems** using the laser power bed fusion technology (DMLS), which guarantees a high quality metal materials and very good mechanical properties of the printed parts. It allows highest mechanical properties, high metal density, good surface finishing and tolerances' respect.

"At Aidro, we love the idea of creating the impossible thing and we see ourselves as pioneers in the introduction of additive manufacturing in the hydraulic sector"

3D Printed Products



Valve Body

- CETOP valves with a wide range of available size (CETOP2, CETOP3,....)
- Lightweight compared to the conventional manufacturing
- High quality materials with corrosion resistance
- Annular chambers for reduced pressure drops



Overcenter Valve

- Optimized flow paths for improved performances
- Extreme stability on full working range
- No more need of auxiliary caps and plugs
- Reduced risk of leakage
- The lowest weight valve in the class



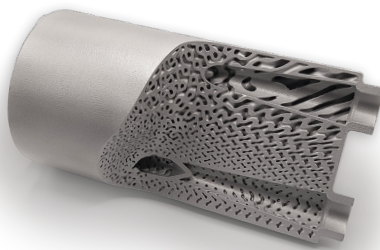
Bankable Valves

- Optimized internal flow paths for improved performances
- Optional modules can be assembled with the system or directly integrated in one body
- Suitable for the harshest environments



Hydraulic Manifold

- Extreme weight reduction
- Low pressure drops
- No more need of service plugs
- Channels optimization
- High pressure resistance (700 bar or 10,000 psi)



Heat Exchanger

- Design freedom
- Possibility to produce complex geometries
- High customization
- Space saving
- High heat transfer and performance



Pump System

- Good material properties
- Innovative design
- Channels optimization
- Internally machined
- High performance
- High-strength part



Additive Manufacturing in Hydraulics

Aidro has incorporated Additive Manufacturing (or Metal 3D Printing) into its manufacturing processes, to create a new generation of hydraulic solutions, innovative parts and to overcome the limits of conventional manufacturing methods. This technology allows to produce fast prototypes, spare parts and functional products

with the following advantages:

- lightweight and space saving
- complex geometries at no extra cost
- better performances thanks to the optimization of the internal channels, curved shapes and elimination of 90 Degrees intersection angles
- reduced risk of leakage, absence of auxiliary plugs
- fast lead time

Our Technology:

Laser Powder Bed Fusion

starting from a digital file, metal powder particles are melted using a high power laser in sequential ultra-thin layers, creating functional 3D parts.

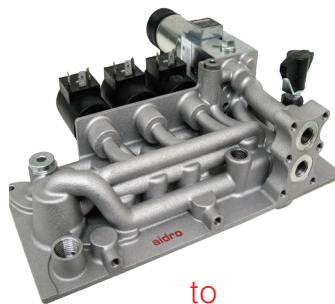


from

Traditional production

Material: Aluminium Ergal

Weight: 5 Kg



to

3D printing

Material: Aluminium AlSi10Mg

Weight: 1,3 Kg

3D Printing BENEFITS



75%
Weight
reduction

High Quality Metal Powders

Inconel (625, 718) is a heat and corrosion resistant nickel alloy characterized by having high tensile, creep and rupture strength. Components in this type of nickel alloy have typically excellent fatigue and thermal-fatigue values.

Stainless steel (AISI316L, 17 4-PH) is characterized by having good corrosion resistance and mechanical properties. This is widely used for hydraulic special applications, such as oil&gas, off-shore and marine.

Aluminum (AlSi10Mg, F357) offers good strength, hardness and dynamic properties and it is also used for parts subject to high loads. It is ideal for applications that require good thermal properties and reduced weight.

Maraging Steel is known for possessing superior strength and toughness without losing malleability. The hydraulic parts made from this steel are easily machinable after the 3D printing process.

Sustainability



Aidro supports customers in their journey into sustainability and carbon footprint reduction. Sustainability is at the core of everything we do.

Society has to move towards net-zero emissions, and we aim to be a committed partner on that journey.

Our goal is to improve our products' quality and efficiency in respect of nature, and to make a positive change towards sustainable production and environment.



Aidro has chosen to formalize and structure its commitment to ESG matters in a comprehensive and transparent way, through the publication of a **Sustainability Report** (Aidro website - "Sustainability")

Green Powder from the Recycling of Obsolete Parts

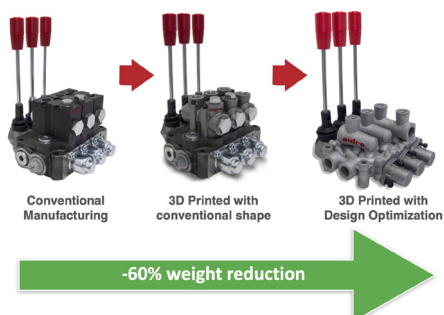
Aidro is a proudly partner of the GREEN powder project made with the recycling of obsolete parts by our partners.

This project marks a milestone towards the circular economy :

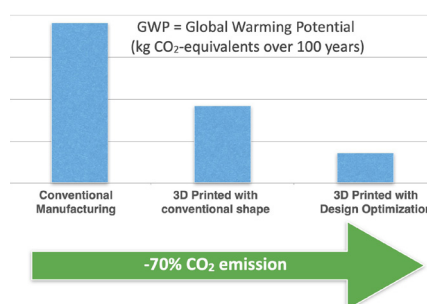
- recycle obsolete parts from "dead stock"
- create metal powder for 3D printing
- design for AM and 3D print new components at lower CO₂ footprint
- giving new life to scrap metals

Aidro supports its clients in their Carbon Footprint Reduction plans with the supply of 3D printed parts made with Green Powder

Additive Manufacturing



Life Cycle Assessment



aidro

Operative Address and Warehouse:

aidro s.r.l.

Via Prati Bassi 36- 21020 Taino (VA) Italy

Phone: +39 0331 960250 - Fax: +39 0331 960075

email: aidro@aidro.it



member of:



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