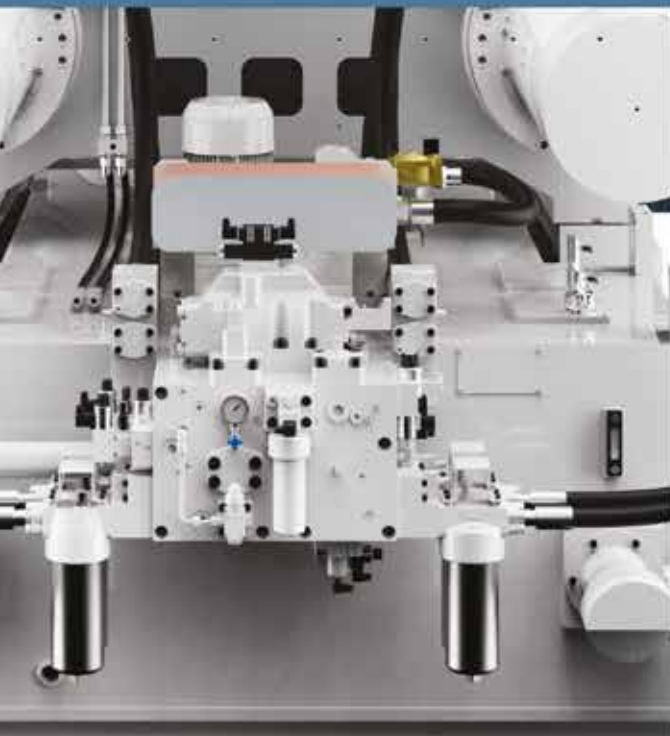




NEO
FORECO FOREVER

The Superior Choice



The Premium Die Casting Machine from



IDRA

Over-the-Edge
EFFICIENCY and
Eco Sustainability

NEO introduces a new chapter in high end die casting technology.

NEO is the new paradigm in die-casting 'Giga' solutions (going from 340 to 6200 tons).

NEO is anticipating the future of OEM, offering the perfect solution for the production of aluminum parts for Hybrid - full electric vehicles (Structural, Battery box, Rotors) and Production of large aluminum parts made with full automated HPDC cells (Blocks, Auto gears, Multi-cavity structural).

NEO innovative technology offers best-in-class performance with excellent injection performance, a high dynamic force with strong intensification for final pressure and a complete setting flexibility with precise, and stable production parameters.



Idra Group is going all-in in Forward thinking Eco Complimentary Commitment. NEO is the first IDRA system fully designed for a sustainable foundry or "Efficient Manufacturing Facility" in order to meet these amazing accomplishments:

- Low scrap waste from production
- High efficiency and optimized energy usage
- Sustainable factory environment taken into consideration at the design stage
- Helping to lower industrial production costs

NEO also offers unparalleled guaranteed long life and reliability.



NEO Features



Fast cycle times

Integrated high flow hydraulic manifold blocks
Increased pump capacity utilizing DCP technology.



Easy maintenance and minimal risk of fluid loss

All-in-one hydraulic manifolds.
Limited use of external pipe-work.
Designed-for-access mechanical groups with new guard design.



Low Energy cost

Energy efficient motors with speed control.
Minimized injection pressure loss and accumulator recharge time.



User friendly controls

Inject Computer 3.2 (best in class machine management software).
Eliminated push button Unit using Multiple touch screens.
Cell controller Single point setting for integrated peripheral automation.



Fit for complex parts manufacture

Closed loop 5S regenerative control of the injection velocity.
Programming and control of process parameters.



NEO Innovation



New Injection Series 5S®

Closed loop regenerative injection with aux servo pump for efficient recharge.
Extended velocity control valve life by balance of hydraulic forces.
High dynamic force necessary to fill difficult castings.
Maintaining same final pressure requirement for porosity in power train castings.



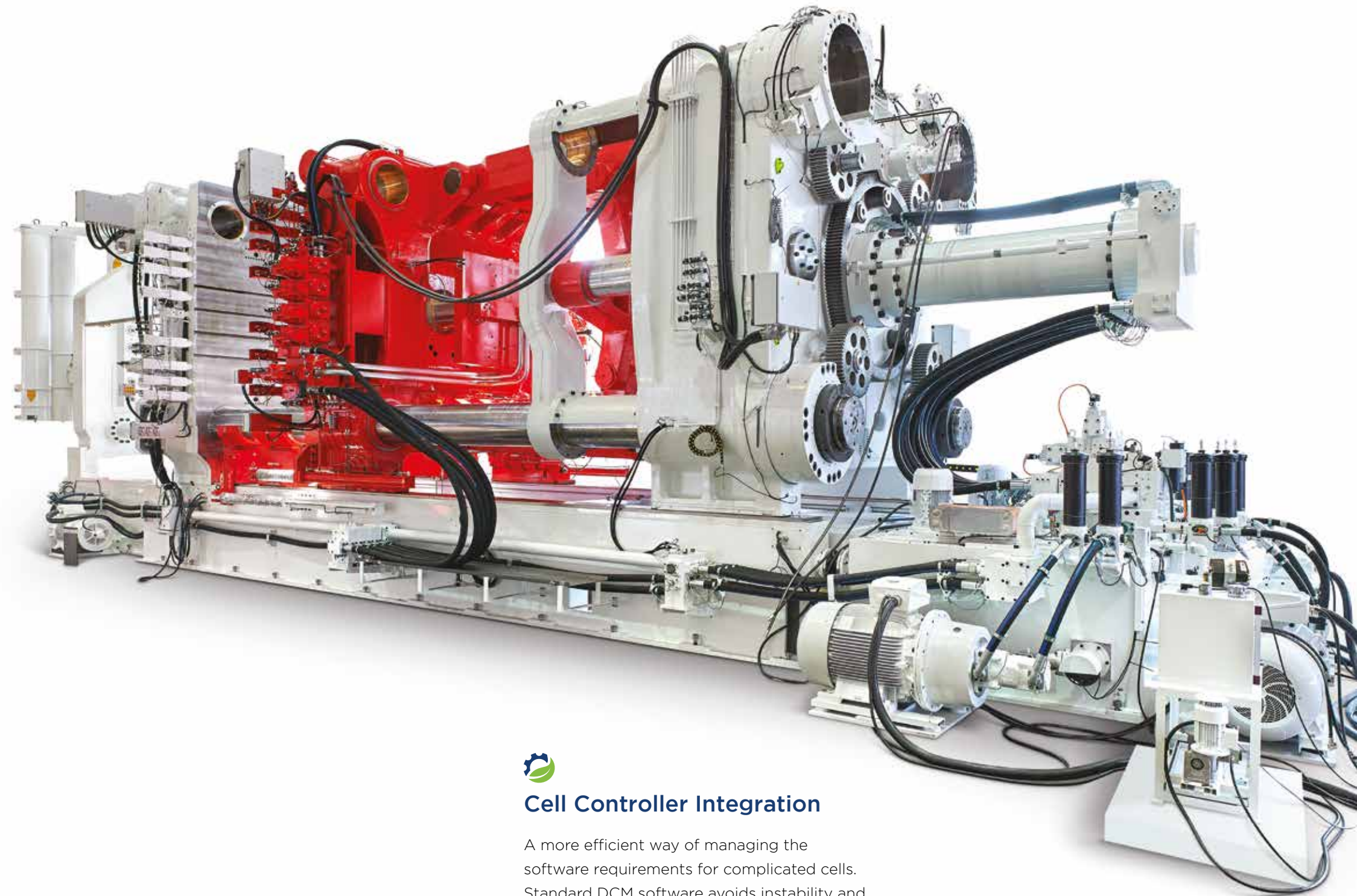
New Guarding System

Reducing complex electrical parts and stops.
Simplified assembly of the system with modular scalable construction.
Increased safety requirements for access while machine is running.
Reduced emissions from the die casting process.



DCP Hydraulic System

Reduced energy consumption per cycle of the DCM cell.
Separated closing and injection pump systems.
Allowing subgroup testing for the injection system.



Cell Controller Integration

A more efficient way of managing the software requirements for complicated cells.
Standard DCM software avoids instability and unnecessary stops.
Flexibility and customization for many different configurations.
Easy integration with the best in market products.

5S INJECTION SYSTEM



NEO debuts the new revolutionary patented injection system, a result of an amazing R&D effort and two years of hot tests in collaboration with IDRA Group's FSA partners. 5S is a closed loop regenerative injection with aux servo pump for efficient recharge,

that gives you total control of pressure and velocity, with high dynamic force necessary to fill difficult castings, and an incredible amount of technological enhancements to give you superior results.



Strong

At all speeds (even 10 m/s) the rod side of the injection cylinder remains always pressurized, allowing a perfect control with no cavitation of the hydraulic fluid.

Maximum dynamic force of the injection cylinder always available (2nd phase)
| Improved dynamic force | Better quality of the cast part



Simple

Only one valve for injection speed control, which is inserted in the inlet side of the injection cylinder.

Better control | Less stress and heating effect
Less stressed manifolds, tubes and seals



Sustainable

5S is designed to maximize energy saving and to achieve a long lasting life, in order to improve the eco sustainability of the machine.

Hydraulic fluid consumption reduction up to 54%
| Low energy consumption | Efficient recharge and programmable pressure | Long lasting components



Smooth

An hydraulic cushion is mounted with special design that manages the flow of the hydraulic fluid coming out of the rod side with constant counter pressure.

Fluid never discharged to the tank | Hydraulic fluid not emulsified | Completely smooth first step | Reduced mechanical noise during injection



Stable

5S innovative High Dynamic Force system brings revolutionary stability for injection parameters. This patented regenerative injection is giving first-class repeatability for first and second stage of velocity, while the intensification piston controlled by closed loop gives amazing final pressure.

Unrivaled stability | Top-notch repeatability | Excellent final pressure

INJECTION UNIT DATA

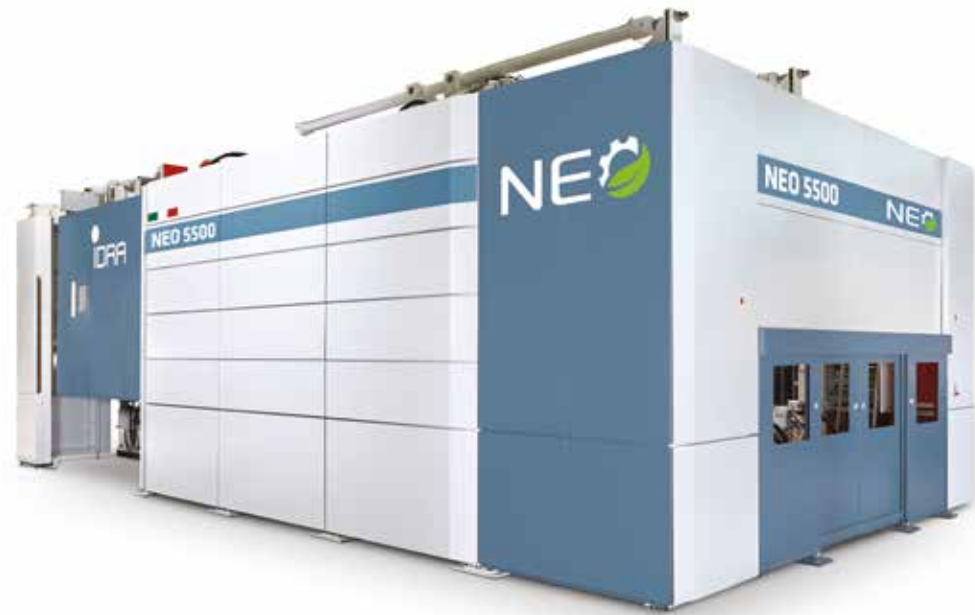
MODEL		NEO 340	NEO 450	NEO 600	NEO 800	NEO 1000	NEO 1200	NEO 1500	NEO 1800
Injection dynamic force (2nd phase)	kN	246	246	327	327	440	440	592	592
Injection force with 20 bar counterpressure	kN	591	591	591	917	917	1.222	1.222	1.784
Injection stroke	mm	650	650	650	750	750	900	900	1.000
Max. injection velocity (without alloy)	m/s	9	9	9	9	9	9	9	9
Min. sleeve diameter	mm	60	60	60	80	80	90	90	110
Max. sleeve diameter	mm	80	90	100	120	130	140	140	160
Max. shot weight (Al alloy) with 65% min. sleeve filling up and 95% of injection stroke	kg	3,06	3,06	3,06	6,29	6,29	9,5	9,5	15,8
Max. shot weight (Al alloy) with 65% min. sleeve filling up and 95% of injection stroke	kg	5,45	6,89	8,51	14,14	16,60	23,1	23,1	33,5
Max. projected area with min. sleeve diameter	cm ²	186	253	338	479	612	686	899	1.001
Max. projected area with max. sleeve diameter	cm ²	330	570	938	1.078	1.617	1.659	2.174	2.117
Max. projected area with nominal clamping force and p = 400 bar on alloy	cm ²	988	1.349	1.798	2.228	2.847	3.287	4.309	4.788
Pressure on the alloy in the min. sleeve	bar	2.131	2.131	2.131	1.860	1.860	1.918	1.918	1.914
Pressure on the alloy in the max. sleeve	bar	1.199	947	767	827	704	793	793	904
Injection positions	mm	0; -100; -200	0; -270	0; -300	0; -350	0; -400	0; -450	0; -450	0; -500
Max. plunger penetration	mm	240	240	240	285	285	310	310	420
Sleeve centering diameter	mm	130	150	180	180	195	195	195	225

INJECTION UNIT DATA

MODEL		NEO 2200	NEO 2700	NEO 3000	NEO 3400	NEO 3800	NEO 4400	NEO 5500	NEO 6200
Injection dynamic force (2 nd phase)	kN	592	873	873	873	873	930	930	1.078
Injection force with 20 bar counterpressure	kN	1.784	2.629	2.629	2.629	2.629	2.824	2.824	3.343
Injection stroke	mm	1.000	1.450	1.450	1.450	1.450	1.600	1.600	1.700
Max. injection velocity (without alloy)	m/s	9	9	10	10	10	10,0	10,0	10,0
Min. sleeve diameter	mm	110	130	130	130	130	140	150	160
Max. sleeve diameter	mm	165	190	190	200	210	220	230	240
Max. shot weight (Al alloy) with 35% min. sleeve filling up and 95% of injection stroke	kg	15,8	32,1	32,1	32,1	32,1	41,1	47,1	57,0
Max. shot weight (Al alloy) with 65% min. sleeve filling up and 95% of injection stroke	kg	35,6	68,5	68,5	75,9	83,7	101,4	110,8	128,2
Max. projected area with min. sleeve diameter	cm ²	1.238	1.390	1.535	1.732	1.903	2.384	3.442	3.729
Max. projected area with max. sleeve diameter	cm ²	2.785	2.970	3.278	4.100	4.967	5.888	8.092	8.390
Max. projected area with nominal clamping force and p = 400 bar on alloy	cm ²	5.921	7.018	7.746	8.744	9.608	11.148	14.016	15.800
Pressure on the alloy in the min. sleeve	bar	1.914	2.019	2.019	2.019	2.019	1.870	1.629	1.695
Pressure on the alloy in the max. sleeve	bar	850	945	945	853	774	757	693	753
Injection positions	mm	0; -500	0; -500	0; -500	0; -500	0; -550	0; -650	0; -650	0; -700
Max. plunger penetration	mm	420	550	550	550	550	700	700	750
Sleeve centering diameter	mm	265	290	290	310	330	330	370	385




NEO DCM Guarding System




DCP Drive Control Pump System



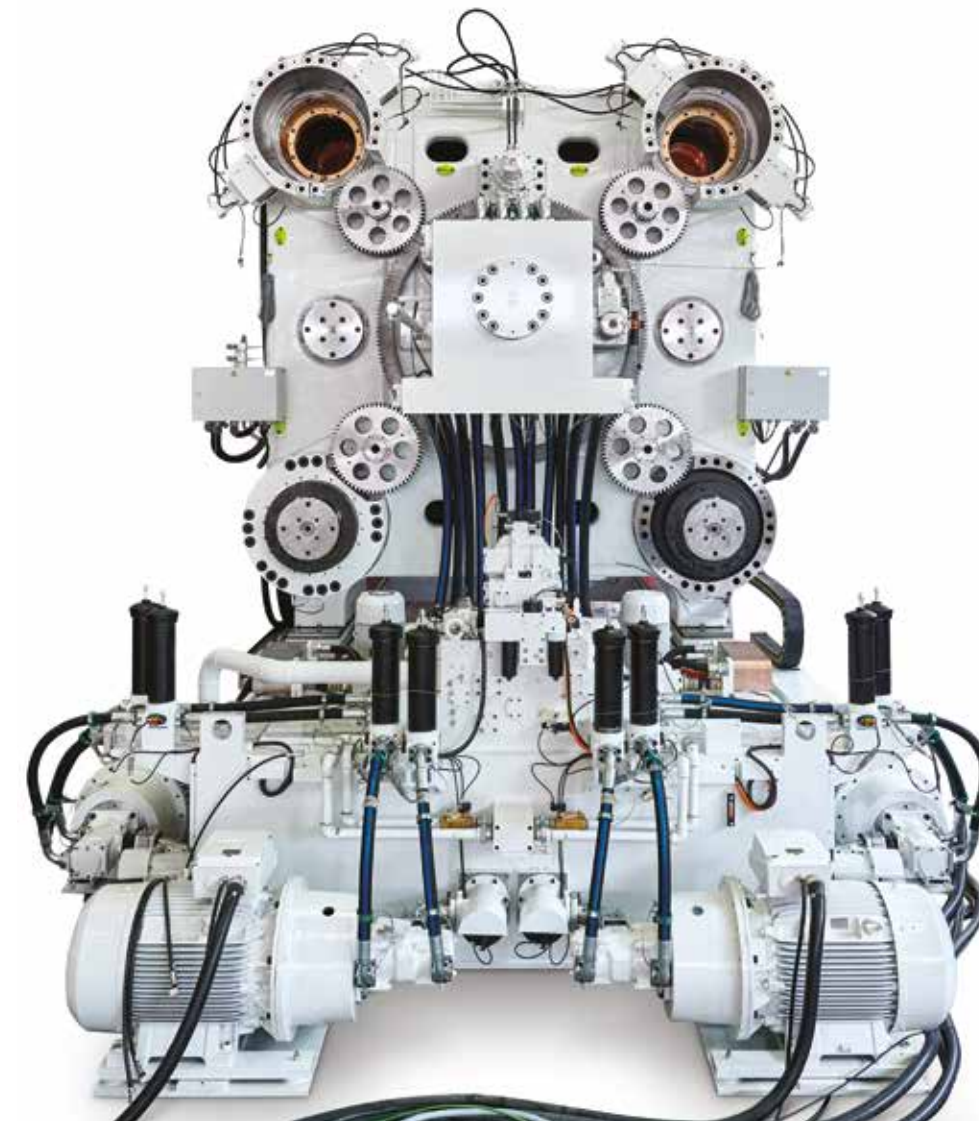
NEO debuts the new Guarding system developed by Idra Group following the 'Foreco. Forever' philosophy: eco-sustainability and efficiency. The innovative system comes with reduced manufacturing costs and impact: the toggle guarding can now be eliminated using a closed system with light barrier protection, and difficult to manufacture sheet metal gear guards are no longer needed. The NGS goes the 'less is more'

route with a simplified electrical installation, a minimalistic design that reduces components and removes cable and switches. These improvements - together with a DC motor with direct belt drive - allows for a faster movement of the guards and a quicker cycle. The new design is also easily customizable: customer name and logo can be added to rear panels and colour scheme can easily be modified on request.

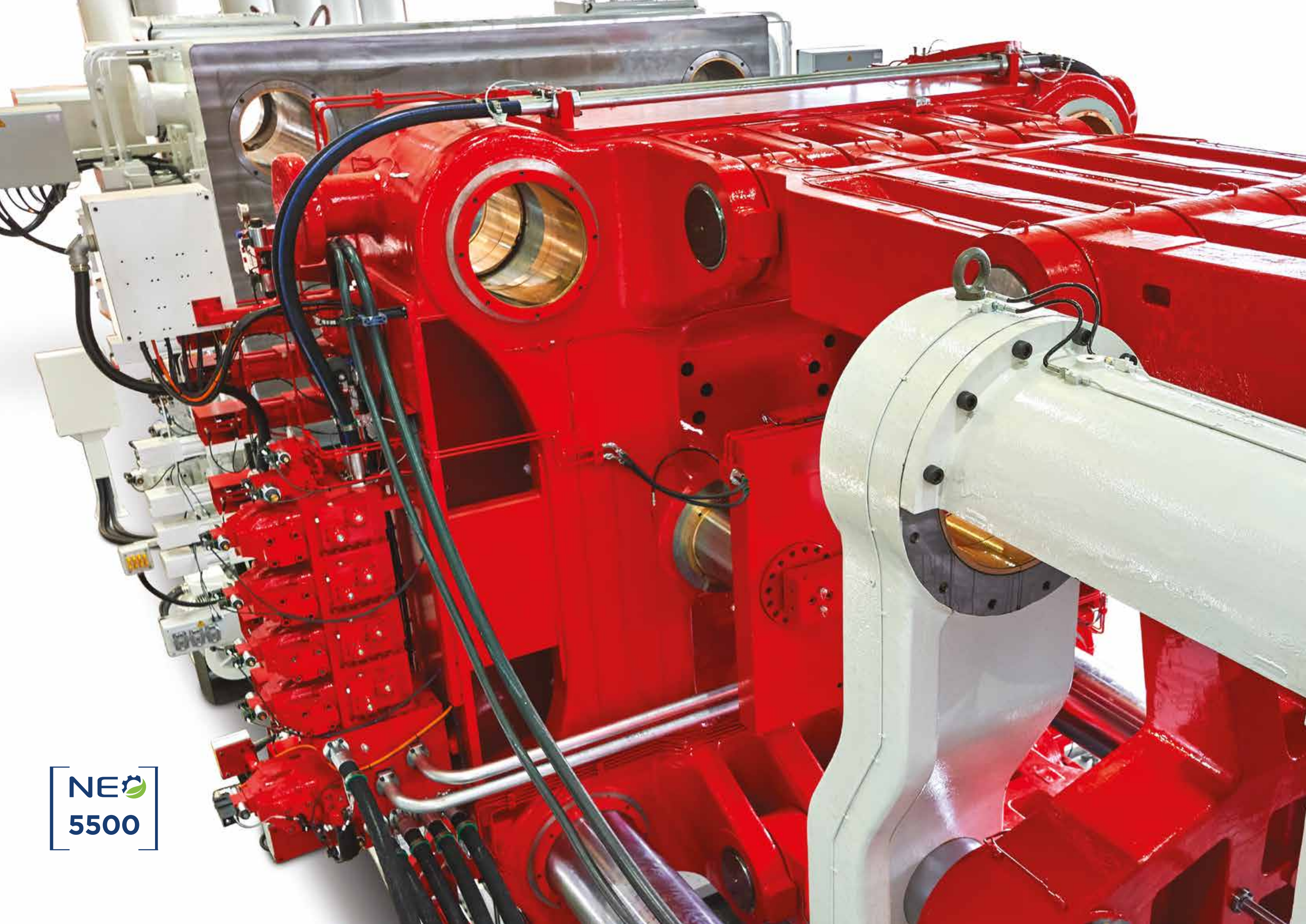
-  Servo Drive
-  Reduced Wear
-  Simplified Design

-  Faster Guard movement
-  Total machine protection
-  Easy customization

NEO comes equipped with the new over-the-edge Drive Control Pump System developed by Idra Group. The DCP has a new architecture, that can accomplish the same efficiency with smaller kW motors, thanks to a new Master-Slave, closing unit, an improved PLC control and a new Injection Accumulator charging unit, that charges independently from the closing and core puller system.



Energy saving
54%



NEO
5500

CLOSING UNIT DATA

MODEL		NEO 340	NEO 450	NEO 600	NEO 800	NEO 1000	NEO 1200	NEO 1500	NEO 1800
Clamping force	kN	3.876	5.290	7.053	8.740	11.168	12.899	16.908	18.788
Clamping force	Ton	395	539	719	891	1.139	1.315	1.724	1.915
Ejection force	kN	277	277	433	433	433	433	433	574
Max. die height	mm	700	800	900	1.000	1.050	1.100	1.200	1.450
Min. die height	mm	250	300	400	450	450	450	450	600
Platens dimensions HxV	mm	970x970	1160x1160	1350x1350	1400x1400	1620x1620	1730x1730	1850x1850	1960x1960
Tie bar spacing	mm	620x620	760x760	865x865	910x910	1000x1000	1100x1100	1160x1160	1250x1250
Tie bar diameter	mm	130	140	165	180	200	215	240	250
Movable platen stroke	mm	600	700	780	900	960	1.070	1.200	1.400
Ejection stroke	mm	140	165	175	200	230	230	255	280

GENERAL DATA

MODEL		NEO 340	NEO 450	NEO 600	NEO 800	NEO 1000	NEO 1200	NEO 1500	NEO 1800
Working pressure	bar	180	180	180	180	180	180	180	180
Dry Ciclyng (DIN 24480)	n/1"	3.5	3	2.9	2.7	2.5	2.5	2.2	2.1
Pump motor power	KW	22	30	37	37	45	2x30	2x30	2x37
Injection group pump motor power	KW	-	-	-	-	-	-	-	37
Machine weight	ton	18	24	33	47	56	65	85	98
Machine dimensions (L x W x H)	m	7,32x3,1x3,0	7,4x3,4x3,1	8,1x3,4x3,2	9,12x3,7x3,8	9,6x3,9x4,2	10,45x3,9x4,1	10,8x4,1x4,2	11,95x4,2x4,4

CLOSING UNIT DATA

MODEL		NEO 2200	NEO 2700	NEO 3000	NEO 3400	NEO 3800	NEO 4400	NEO 5500	NEO 6200
Clamping force	kN	23.233	27.538	30.394	34.313	37.700	43.743	55.000	62.000
Clamping force	Ton	2.368	2.807	3.098	3.498	3.843	4.459	5.607	6.320
Ejection force	kN	574	773	773	773	1164	1164	1238	1238
Max. die height	mm	1.550	1.750	1.750	1.900	2.100	2.100	2.400	2.500
Min. die height	mm	700	800	800	900	1.100	1.100	1.500	1.600
Platens dimensions HxV	mm	2120x2120	2380x2380	2530x2530	2640x2640	2840x2840	2900x2900	3600x3600	3700x3700
Tie bar spacing	mm	1345x1345	1500x1500	1640x1640	1720x1720	1770x1770	1850x1850	2300x2300	2400x2400
Tie bar diameter	mm	280	300	310	330	350	370	450	480
Movable platen stroke	mm	1.400	1.500	1.500	1.600	1.700	1.800	2.300	2.400
Ejection stroke	mm	280	350	350	350	400	400	400	400

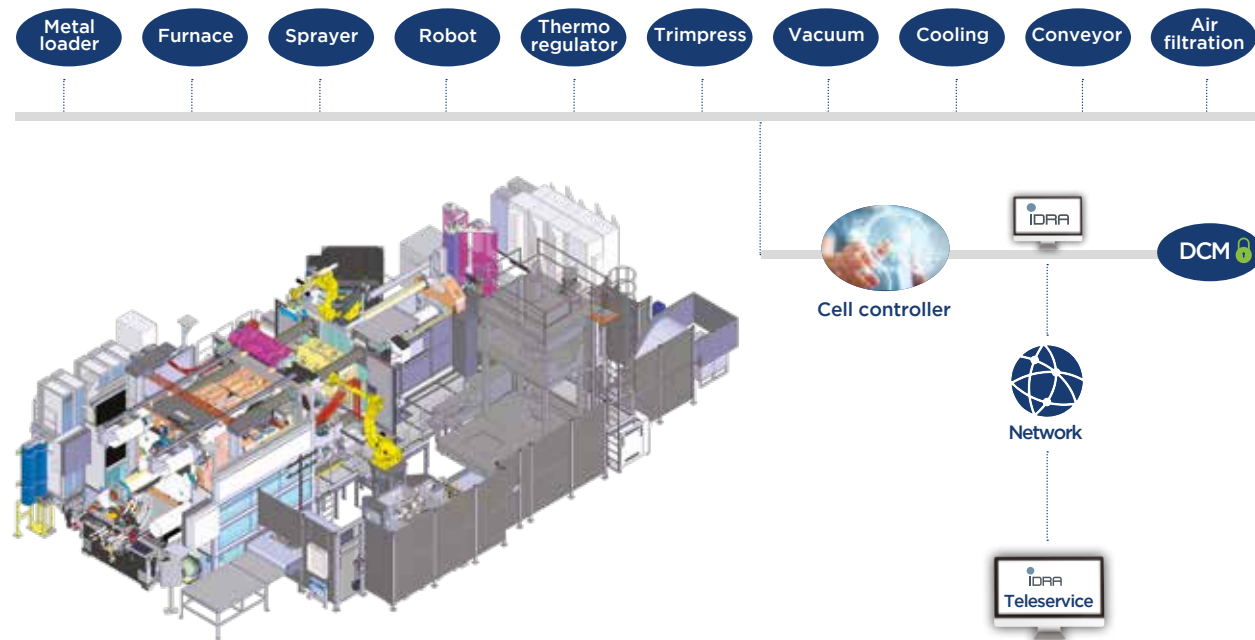
GENERAL DATA

MODEL		NEO 2200	NEO 2700	NEO 3000	NEO 3400	NEO 3800	NEO 4400	NEO 5500	NEO 6200
Working pressure	bar	180	180	180	180	180	180	180	180
Dry Ciclyng (DIN 24480)	n/1"	1.9	1.7	1.6	1.7	1.5	1.5	1.3	1,2
Pump motor power	kW	2x45	2x45	2x55	2x75	2x75	2x75	4x75	4x90
Injection group pump motor power	KW	37	45	45	45	45	55	55	55
Machine weight	ton	113	150	185	205	227	270	430	450
Machine dimensions (L x W x H)	m	12,2x4,5x4,9	13,6x5,4x5,1	14,2x5,6x5,2	14,9x5,6x5,3	15,5x5,9x5,6	16,1x5,9x5,7	19,7x7,4x5,9	20,3x7,8x6,3

IDRA Cell Controller

IDRA Cell Controller is a brand new 4.0 architecture developed by IDRA and available in all the new machines, to perform efficiently the software requirements for complicated cells. From a single 'Cell Controller' unit, you can now control the DCM and all the peripherals of the automation cell with an easy to read, easy to customize user interface. IDRA Cell Controller brings a new level of connectivity and integration, with a seamless flow of data

exchange between DCM and the peripherals, to give you full control over production and process traceability. In a single screen you have a complete diagnostic analysis of the cell, greatly improving set-up and maintenance times and costs. The DCM software is standard to give 100% reliability, and the Cell Controller offers complete flexibility and customization for many different configurations.



- Lower Maintenance Controller Costs for Peripherals
- High Quality Data and comprehensive integration
- Total safety control
- Easy customization and integration process
- Improved OEE efficiency
- Industry 4.0 ready



WE LIKE TO WORK TOGETHER WITH YOU

STRONGER Together

IDRA Cell Controller System is the amazing result of a combined effort of the Foundry Star Alliance (FSA), a group of leading companies in their specific field of activity who decided to cooperate with the aim of better support the very rapid growth of the global light alloy HPDC markets.

The global approach of the OEM's require a level of knowledge and skill that cannot be available in one single company. The members of the FSA are cooperating and pulling together their combined resources and specific technology; the result is the best reliable, integrated and automated high pressure die casting production cell in the market.

Choosing IDRA Cell Controller System you get a clear competitive advantage, with a solution that natively integrates with the best in market products.

Innovation

We are pulling together our combined resources and specific technology to move forward, faster and stronger.

Time to Market

In a quickly evolving market, we work together to anticipate the future and be the first to deliver.

Green Future

FSA partners value our environment and are working towards a brigher future for our Earth. Together, we can do more.

Turn key solutions

Different skill and expertise: we can provide the solutions to solve all the various challenges of our customers.

FSA combines the leading European companies in the different light alloy HPDC fields of expertise.

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