

POWER TRANSFORMERS · SOFIA, BULGARIA

Heavy power. Engineered to hold.

Oil-immersed, cast resin and special purpose transformers from 25 kVA to 25,000 kVA. Designed around the duty cycle, built to IEC and EN standards, and tested unit by unit.

OIL-IMMERSED | CAST RESIN | SPECIAL PURPOSE | ACCESSORIES

25,000 kVA
MAXIMUM RATING

36 kV
INSULATION CLASS

100 %
ROUTINE TESTED

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ABOUT POLYSTAR

The power behind industry.

Polystar Hydraulics designs and manufactures power transformers for industrial operators, utilities and infrastructure projects — with engineering and production kept close together.

Established in Sofia in 2019, we build oil-immersed and cast resin transformers from 25 kVA to 25,000 kVA, alongside the accessories and protection devices that keep them running.

Our team handles the electrical design, winding, tank fabrication, resin casting and routine testing in-house. That integration keeps answers short, accountability clear and the finished transformer close to the original intent.



2019 ESTABLISHED	25,000 *kVA* MAXIMUM RATING
36 *kV* INSULATION CLASS	100 *%* ROUTINE TESTED

WHAT WE DO

01
Design engineering
Losses, impedance, tapping and physical fit developed around your single-line diagram.

02
Winding & core
Copper or aluminium windings, step-lap cores and controlled clamping for fault strength.

03
Tank & resin production
Corrugated and conservator tanks, vacuum-cast resin windings and controlled oil filling.

04
Routine testing
Ratio, losses, impedance, dielectric and partial discharge tests on every unit.

05
Factory acceptance
Documented test records and customer-witnessed FAT against an agreed inspection plan.

06
Lifecycle support
Spares, condition assessment, retrofits and commissioning support after handover.

QUALITY

Checked at every gate.

01 Incoming material inspection

02 Winding & core checks

03 Routine electrical tests

04 Final inspection & packing

IEC 60076 · EN 50464-1 · EN 50588-1 · EN 50541-1 · IEC 60076-11 · ISO 9001 · CE

START A PROJECT

Send us your specification. We'll engineer the rest.

TALK TO OUR TEAM
info@polystarhydraulics.com

THE PRODUCT RANGE

The range.

8 transformer and accessory platforms, from compact distribution units to engineered 25 MVA power transformers. Every platform can be configured for voltage ratio, losses, cooling and enclosure.



04

OIL-IMMERSED

Hermetically Sealed Oil-Immersed Transformer

25 – 2,500 kVA



05

OIL-IMMERSED

Conservator-Type Oil-Immersed Transformer

25 – 2,500 kVA



06

OIL-IMMERSED

Aluminium-Wound Oil-Immersed Transformer

25 – 2,500 kVA



07

CAST RESIN

Ecodesign Cast Resin Transformer

100 – 5,000 kVA



08

CAST RESIN

BkCo Cast Resin Transformer

160 – 3,150 kVA



09

CAST RESIN

1,000 kVA Cast Resin Distribution Transformer

1,000 kVA



10

SPECIAL PURPOSE

Large Power & Special Transformers

2,500 – 25,000 kVA



11

ACCESSORIES

Transformer Accessories & Components

Compatible with 25 kVA – 25 MVA

CUSTOM CONFIGURATIONS

Need a rating outside the catalogue?

TALK TO OUR ENGINEERING TEAM

info@polystarhydraulics.com

OIL-IMMERSED / 01 OF 08

Hermetically Sealed Oil-Immersed Transformer

Sealed for life. Built for demanding industrial duty.



Three-phase distribution transformers with copper windings, sealed and oil-filled under vacuum for maintenance-free operation in demanding environments.

RATED POWER	VOLTAGE
25 – 2,500 kVA	up to 36 kV
COOLING	**STANDARD**
ONAN	IEC 60076 · EN 50464-1

STANDARD FEATURES

- ✓ HV bushings according to DIN 42531 or EN 50180
- ✓ LV bushings according to DIN 42530 or EN 50386
- ✓ Off-circuit tap changer in 5 positions
- ✓ Corrugated-wall steel tank
- ✓ Thermometer pocket (contact thermometer from 630 kVA)
- ✓ Lifting lugs and earthing terminals
- ✓ Filling plug and drain cock
- ✓ Bi-directional rollers, 90°
- ✓ Safety valve
- ✓ Copper windings

TECHNICAL DATA

Rated power	**25 – 2,500 kVA**
Configuration	**Three-phase**
Winding material	**Copper**
Cooling	**ONAN**
Tap changer	**Off-circuit, 5 positions**
Insulation class	**Up to 36 kV**
Installation	**Indoor / outdoor**
Design standard	**EN 50464-1, IEC 60076**

MODEL RANGE

Indicative standard configurations. Final values confirmed at design review.

MODEL	RATED POWER	HV	LV	IMPEDANCE	TOTAL WEIGHT
PS-OH-100	100 kVA	11 kV	0.4 kV	4%	620 kg
PS-OH-250	250 kVA	11 kV	0.4 kV	4%	1,110 kg
PS-OH-400	400 kVA	11 kV	0.4 kV	4%	1,420 kg
PS-OH-630	630 kVA	11 kV	0.4 kV	4%	1,800 kg
PS-OH-1000	1,000 kVA	11 kV	0.4 kV	6%	2,810 kg
PS-OH-1600	1,600 kVA	11 kV	0.4 kV	6%	3,700 kg
PS-OH-2500	2,500 kVA	11 kV	0.4 kV	6%	5,600 kg

OIL-IMMERSED / 02 OF 08

Conservator-Type Oil-Immersed Transformer

Oil preservation with room to breathe.



Three-phase oil-immersed transformers with an external conservator tank, copper windings and a Buchholz relay for reliable protection against internal faults.

RATED POWER	VOLTAGE
25 – 2,500 kVA	up to 36 kV
COOLING	**STANDARD**
ONAN	IEC 60076 · EN 50464-1

STANDARD FEATURES

- ✓ HV bushings according to DIN 42531 or EN 50180
- ✓ LV bushings according to DIN 42530 or EN 50386
- ✓ Off-circuit tap changer in 5 positions
- ✓ Corrugated-wall steel tank
- ✓ Thermometer pocket (contact thermometer from 630 kVA)
- ✓ Lifting lugs and earthing terminals
- ✓ Filling plug and drain cock
- ✓ Bi-directional rollers, 90°
- ✓ Conservator tank with oil level indicator
- ✓ Buchholz relay (standard from 1,000 kVA)

TECHNICAL DATA

Rated power	25 – 2,500 kVA
Configuration	Three-phase
Winding material	Copper
Cooling	ONAN
Oil preservation	Conservator tank
Protection	Buchholz relay, safety valve
Insulation class	Up to 36 kV
Design standard	EN 50464-1, IEC 60076

MODEL RANGE

Indicative standard configurations. Final values confirmed at design review.

MODEL	RATED POWER	HV	LV	IMPEDANCE	TOTAL WEIGHT
PS-OC-100	100 kVA	11 kV	0.4 kV	4%	680 kg
PS-OC-250	250 kVA	11 kV	0.4 kV	4%	1,220 kg
PS-OC-400	400 kVA	11 kV	0.4 kV	4%	1,350 kg
PS-OC-630	630 kVA	11 kV	0.4 kV	4%	1,800 kg
PS-OC-1000	1,000 kVA	11 kV	0.4 kV	6%	2,450 kg
PS-OC-1600	1,600 kVA	11 kV	0.4 kV	6%	3,850 kg
PS-OC-2500	2,500 kVA	11 kV	0.4 kV	6%	5,670 kg

OIL-IMMERSED / 03 OF 08

Aluminium-Wound Oil-Immersed Transformer

Lower weight, dependable performance.



Oil-immersed distribution transformers with aluminium windings, available in hermetically sealed or conservator configurations. The aluminium winding platform reduces unit weight and cost where the duty cycle and load profile allow.

RATED POWER	VOLTAGE
25 – 2,500 kVA	up to 36 kV
COOLING	**STANDARD**
ONAN	IEC 60076 · EN 50464-1

STANDARD FEATURES

- ✓ HV bushings according to DIN 42531 or EN 50180
- ✓ LV bushings according to DIN 42530 or EN 50386
- ✓ Off-circuit tap changer in 5 positions
- ✓ Corrugated-wall steel tank
- ✓ Thermometer pocket (contact thermometer from 630 kVA)
- ✓ Lifting lugs and earthing terminals
- ✓ Filling plug and drain cock
- ✓ Bi-directional rollers, 90°
- ✓ Available hermetically sealed or with conservator
- ✓ Safety valve

TECHNICAL DATA

Rated power	**25 – 2,500 kVA**
Configuration	**Three-phase**
Winding material	**Aluminium**
Cooling	**ONAN**
Tank options	**Sealed or conservator**
Tap changer	**Off-circuit, 5 positions**
Insulation class	**Up to 36 kV**
Design standard	**EN 50464-1, IEC 60076**

MODEL RANGE

Indicative standard configurations. Final values confirmed at design review.

MODEL	RATED POWER	HV	LV	IMPEDANCE	TOTAL WEIGHT
PS-OA-100	100 kVA	11 kV	0.4 kV	4%	670 kg
PS-OA-250	250 kVA	11 kV	0.4 kV	4%	1,140 kg
PS-OA-400	400 kVA	11 kV	0.4 kV	4%	1,520 kg
PS-OA-630	630 kVA	11 kV	0.4 kV	4%	1,890 kg
PS-OA-1000	1,000 kVA	11 kV	0.4 kV	6%	2,730 kg
PS-OA-1600	1,600 kVA	11 kV	0.4 kV	6%	3,750 kg
PS-OA-2500	2,500 kVA	11 kV	0.4 kV	6%	5,870 kg

CAST RESIN / 04 OF 08

Ecodesign Cast Resin Transformer

Fire-safe power for confined, high-traffic spaces.



Dry-type distribution transformers with vacuum-cast resin windings, designed to Ecodesign requirements and manufactured in accordance with IEC 60076-11.

RATED POWER	VOLTAGE
100 – 5,000 kVA	up to 36 kV
COOLING	**STANDARD**
AN / AF	IEC 60076-11 · EN 50588-1

STANDARD FEATURES

- ✓ Class F insulation with E2, C2 and F1 environmental classes
- ✓ Vacuum-cast winding with self-extinguishing resin
- ✓ Partial discharge tested on every unit
- ✓ No oil — no bunding, fire walls or oil containment
- ✓ Low noise and low partial discharge design
- ✓ IP00 to IP31 enclosure options
- ✓ Copper or aluminium windings
- ✓ Temperature monitoring with PT100 sensors

TECHNICAL DATA

Rated power	160 – 3,150 kVA standard
Configuration	Three-phase
Insulation class	Up to 36 kV
Environmental class	E2 · C2 · F1
Cooling	AN / AF
Protection	IP00 – IP31
Winding	Vacuum-cast resin
Design standard	IEC 60076-11, EN 50588-1

MODEL RANGE

Indicative standard configurations. Final values confirmed at design review.

MODEL	RATED POWER	HV	LV	IMPEDANCE	TOTAL WEIGHT
PS-CRE-160	160 kVA	11 kV	0.4 kV	6%	On request
PS-CRE-250	250 kVA	11 kV	0.4 kV	6%	On request
PS-CRE-400	400 kVA	11 kV	0.4 kV	6%	On request
PS-CRE-630	630 kVA	11 kV	0.4 kV	6%	On request
PS-CRE-1000	1,000 kVA	11 kV	0.4 kV	6%	On request
PS-CRE-1600	1,600 kVA	11 kV	0.4 kV	6%	On request
PS-CRE-2500	2,500 kVA	11 kV	0.4 kV	6%	On request
PS-CRE-3150	3,150 kVA	11 kV	0.4 kV	6%	On request

CAST RESIN / 05 OF 08

BkCo Cast Resin Transformer

Standard-loss economy, cast-resin safety.



Cast resin transformers built to EN 50541-1 with BkCo loss levels, offering a familiar specification for projects that do not require Ecodesign loss limits.

RATED POWER	VOLTAGE
160 – 3,150 kVA	up to 36 kV
COOLING	**STANDARD**
AN / AF	IEC 60076-11 · EN 50541-1

STANDARD FEATURES

- ✓ BkCo loss levels to EN 50541-1
- ✓ Vacuum-cast, self-extinguishing resin windings
- ✓ Suitable for high-humidity and polluted environments
- ✓ Routine partial discharge test on every unit
- ✓ Copper or aluminium conductor options
- ✓ IP00 to IP31 enclosures
- ✓ PT100 temperature sensors as standard
- ✓ Low-noise core design

TECHNICAL DATA

Rated power	160 – 3,150 kVA
Configuration	Three-phase
Insulation class	Up to 36 kV
Loss specification	BkCo, EN 50541-1
Cooling	AN / AF
Protection	IP00 – IP31
Winding	Vacuum-cast resin
Design standard	IEC 60076-11, EN 50541-1

MODEL RANGE

Indicative standard configurations. Final values confirmed at design review.

MODEL	RATED POWER	HV	LV	IMPEDANCE	TOTAL WEIGHT
PS-CRB-160	160 kVA	11 kV	0.4 kV	6%	On request
PS-CRB-250	250 kVA	11 kV	0.4 kV	6%	On request
PS-CRB-400	400 kVA	11 kV	0.4 kV	6%	On request
PS-CRB-630	630 kVA	11 kV	0.4 kV	6%	On request
PS-CRB-1000	1,000 kVA	11 kV	0.4 kV	6%	On request
PS-CRB-1600	1,600 kVA	11 kV	0.4 kV	6%	On request
PS-CRB-2500	2,500 kVA	11 kV	0.4 kV	6%	On request
PS-CRB-3150	3,150 kVA	11 kV	0.4 kV	6%	On request

CAST RESIN / 06 OF 08

1,000 kVA Cast Resin Distribution Transformer

Solid cast resin insulation for outdoor distribution — no oil.



Three-phase distribution transformer with a solid cast resin insulation system, rated 1,000 kVA at 10 kV / 0.4 kV. The windings are cast in epoxy resin and cooled by natural air circulation, so there is no transformer oil to contain, test or replace.

RATED POWER	VOLTAGE
1,000 kVA	10 kV / 0.4 kV
COOLING	**STANDARD**
AN (Air Natural)	GB/T 1094.1-2013 · GB/T 1094.3-2017

STANDARD FEATURES

- ✓ Three-phase, 1,000 kVA cast resin transformer
- ✓ Solid cast epoxy resin insulation — no transformer oil
- ✓ Natural air cooling (AN)
- ✓ Dyn11 connection group
- ✓ Aluminium windings
- ✓ Cold-rolled grain-oriented silicon steel core
- ✓ High-voltage tappings at 10.5 / 10 / 9.5 kV
- ✓ Outdoor installation

TECHNICAL DATA

Model	S11-M-1000/10
Transformer type	Three-phase cast resin (solid insulation)
Rated capacity	1,000 kVA
Rated voltage	10 kV / 0.4 kV
Frequency	50 Hz
Connection group	Dyn11
Cooling method	AN (Air Natural)
Winding material	Aluminium
Core material	Cold-rolled grain-oriented silicon steel
Applicable standard	GB/T 1094.1-2013, GB/T 1094.3-2017
Production date	August 2020
Installation type	Outdoor
HV tap range	10.5 kV / 10 kV / 9.5 kV
HV current	46.19 A
LV output	400 V
Insulation system	Solid cast epoxy resin
Total weight	1,290 kg
Service application	Outdoor power distribution system

MODEL RANGE

Indicative standard configurations. Final values confirmed at design review.

MODEL	RATED POWER	HV	LV	IMPEDANCE	TOTAL WEIGHT
S11-M-1000/10	1,000 kVA	10 kV	0.4 kV	—	1,290 kg

SPECIAL PURPOSE / 07 OF 08

Large Power & Special Transformers

Engineered to order, from 2.5 MVA to 25 MVA.



Custom-engineered power transformers for utility, heavy-industry and renewable-energy applications where standard catalogue units do not fit.

RATED POWER	VOLTAGE
2,500 – 25,000 kVA	up to 36 kV
COOLING	**STANDARD**
ONAN / ONAF	IEC 60076 · project specification

STANDARD FEATURES

- ✓ Engineered to project specification
- ✓ Custom impedance, losses and tapping arrangement
- ✓ Dual-voltage and K-factor winding options
- ✓ On-load or off-circuit tap changers
- ✓ Low-noise core and cooling design
- ✓ Factory acceptance test with customer witness
- ✓ Transport, installation and commissioning support
- ✓ Lifecycle spares and condition assessment

TECHNICAL DATA

Rated power	2,500 – 25,000 kVA
Configuration	Three-phase, engineered to order
Voltage class	Up to 36 kV
Cooling	ONAN / ONAF
Tap changing	Off-circuit or on-load
Testing	Routine, type and special tests
Winding	Copper or aluminium
Design standard	IEC 60076 and project specification

MODEL RANGE

Indicative standard configurations. Final values confirmed at design review.

MODEL	RATED POWER	HV	LV	IMPEDANCE	TOTAL WEIGHT
PS-LP-3150	3,150 kVA	11 kV	0.4 – 6.6 kV	6 – 10%	Engineered to order
PS-LP-5000	5,000 kVA	11 kV	0.4 – 11 kV	6 – 10%	Engineered to order
PS-LP-8000	8,000 kVA	22 kV	6.6 – 11 kV	8 – 12%	Engineered to order
PS-LP-12500	12,500 kVA	33 kV	6.6 – 11 kV	8 – 12%	Engineered to order
PS-LP-25000	25,000 kVA	36 kV	11 – 33 kV	10 – 14%	Engineered to order

ACCESSORIES / 08 OF 08

Transformer Accessories & Components

The details that keep transformers running.



A range of accessories for new-build transformers and retrofit work. Components can be supplied loose for your own assembly, fitted to a new Polystar unit, or supplied for maintenance and refurbishment.

RATED POWER	VOLTAGE
Compatible with 25 kVA – 25 MVA	up to 36 kV
COOLING	**STANDARD**
—	DIN · EN · IEC compatible

STANDARD FEATURES

- ✓ Anti-vibration pads for oil-immersed and cast resin units
- ✓ Bushing with plug connector, 10/20 kV, 250/630 A
- ✓ Cast resin HV bushing up to 1 kV / 1,600 A
- ✓ Safety valves, 50 VG and 25 VG variants
- ✓ Dial thermometers with maximum-value indicator
- ✓ Buchholz relays and pressure-relief devices
- ✓ Winding and oil temperature indicators
- ✓ Filling, drain and filter valves

TECHNICAL DATA

Accessory range	Bushings, valves, relays, instruments
Bushing options	DIN 42531, EN 50180, plug-in types
Safety valves	50 VG / 25 VG
Instrumentation	Dial thermometers, WTI, OTI
Mounting	Anti-vibration pads
Compatibility	Oil-immersed and cast resin
Supply	Loose or factory-fitted
Standards	DIN / EN / IEC

Built to order.

This range is configured around the voltage ratio, duty cycle and site constraints of each project. Ask our engineering team for a tailored proposal.

START A PROJECT

Let’s specify your next transformer.

Send us a rating, a drawing or just an idea. Our engineering team will help turn it into a specification — and a firm quotation.

TALK TO US

info@polystarhydraulics.com

polystarhydraulics.com · Monday–Friday · 09:00–18:00 (EET)

WORKS & OFFICES

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01	02	03	04
Oil-immersed	Cast resin	Special purpose	Accessories
25 – 2,500 kVA	100 – 5,000 kVA	2,500 – 25,000 kVA	25 kVA – 25 MVA

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