

# Global Series Electric Powered Screw Air Compressors

Eco-friendly, energy efficient

**ELGI**  
Think Long Run



11-22 kW





## a tradition of RELIABILITY

Elgi's experience in the design and manufacture of air compressors spans 50 years. Established in India in 1960 as a reciprocating air compressor manufacturing company, Elgi gained its reputation for design and manufacture of screw compressors through strategic partnerships and continuous research and development. Over the years, it emerged as a multi-product multi-market enterprise providing total compressed air solutions in all segments. Elgi's design capabilities translated into wide range of products ranging from oil-lubricated and oil-free rotary screw compressors, oil-free reciprocating compressors and centrifugal compressors.

## innovative TECHNOLOGY

Screw compression elements are manufactured in-house using state-of-the-art machining centres for rotor grinding and machining intrinsic castings of various sizes. Elgi's own  $\eta V$  (eta V) profile rotors ensure energy-efficient compressed air supply for all demanding applications. Elgi is one of the few companies capable of manufacturing wide range of airends and compressor packages in the world.



## robust INFRASTRUCTURE

Elgi has modern manufacturing facilities in India & abroad equipped with advanced high precision grinding machines, turning centres and CNC horizontal and vertical machining centres. Every manufactured component / product passes through stringent quality audits and are tested to ensure performance and reliability. Our Manufacturing test rooms are atmospheric controlled. All parts and finished products undergo stringent quality checks to ensure that Elgi delivers only high quality products to its customers.



The Global series compressors represent a giant leap in design and performance with each component designed for reliability and ease of maintenance. The compressors are manufactured in compliance with CE directive and meet with international quality standards. These new generation compressors significantly reduce operating costs and provide cost savings with return on investment in less than 12 months.

**High Volumetric Efficiency**

Low energy cost per cfm

**Advanced Neuron<sup>+</sup> controller  
(Remote management of compressor operations)**

Ready for SCADA/DCS

**Highly efficient  
Super Breed EFF1 motor**

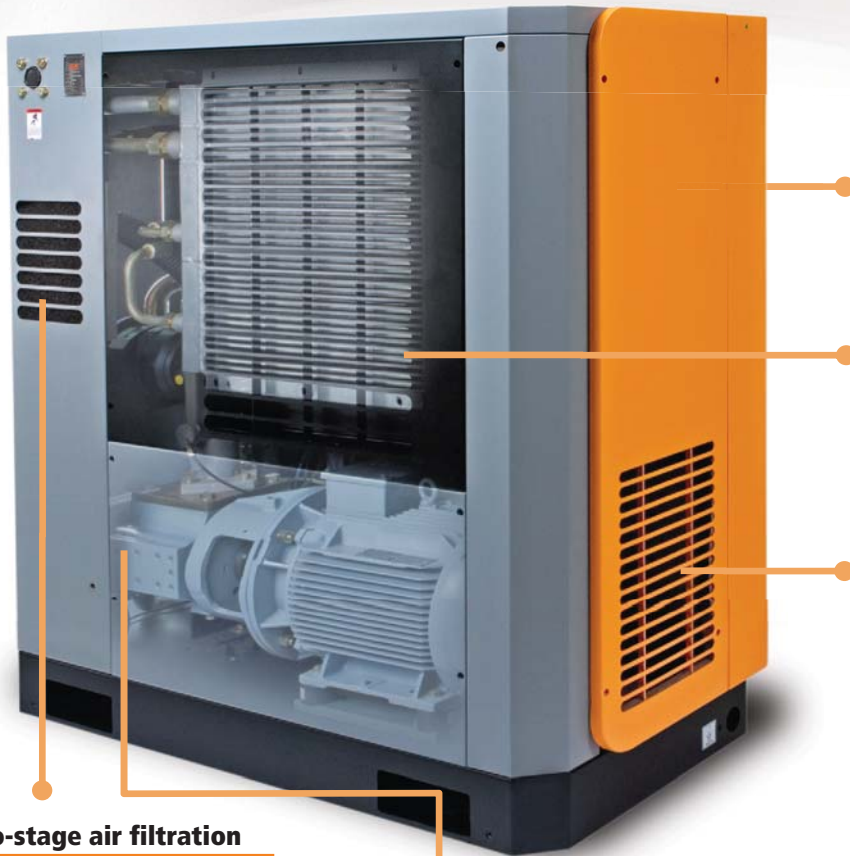
High performance



**Option of Inbuilt Dryer and VFD**

Compact and saves floor area

**Global Series** - The Technology Edge



**Canopy designed to industrial standards**

Silent, aesthetic package

**Robust cooling system**

Reduced air outlet temperature

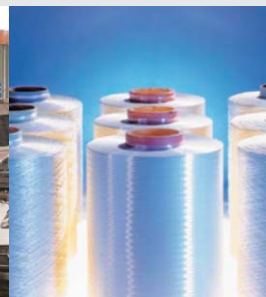
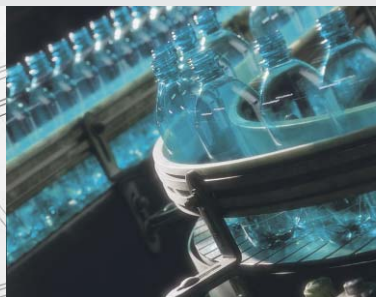
**CE certified package**

**Two-stage air filtration**

Increased life of consumables

**Superior Technology**

Gearless and reduced noise\*



\*for selected models only

# Global Series

## The Eco-friendly Energy Efficient Compressors

### Save energy

#### "Flexair" BLEED: Direct Drive Airends

The Global Series compressors gain their efficiency by using Elgi's patented "BLEED" airends with unique ' $\eta V$  (eta V)' profile rotors

#### Elgi's Flexair advantage

- Improved overall energy efficiency of the compressor due to very low operating speed
- Low maintenance costs due to absence of gears/pulleys etc
- Low operating noise level
- Less number of components resulting in compact design of the compressor



#### Axis Airends

- Belongs to the family of Elgi's highly-efficient ' $\eta V$  (eta V)'-profile Axis airends ranging from Axis 35 - Axis 310
- High volumetric efficiency
- Unique Axis profile rotors for flow starting from 35 lpm
- Proven design with thousands of installations worldwide
- Certified to conform to CE standards



### Reduced starting load

#### Intake valve system

The new generation capacity control system integrated with blow down valve is installed at the compressor inlet. Intake valve optimally controls the compressor capacity during startup reducing the no-load power. This Optimal Capacity Control results in direct savings on power consumption



## Oil-free air(<1ppm)\*

### Efficient air-oil separation with OSBIC(3 Stages)

Elgi has applied unique OSBIC process (Oil separation by impact and centrifugal action) which enables efficient separation of air and oil ,with minimum pressure drop. The method enables separation of oil in three stages, delivering consistent oil-free air while increasing the life of separator element

\* as per ISO Standards



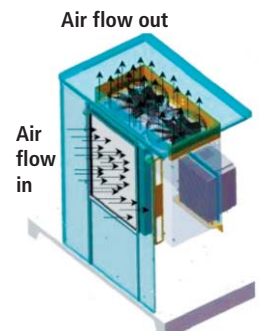
## Moisture-free air 99% Bulk water free

Depending on the humidity level of inlet air, bulk water remains in compressed air at varying levels and causes corrosion of piping, end tools, machinery and valves. Global Series air compressor has a custom-designed centrifugal type moisture separator with an automatic timer controlled drain. This comes as a part of the package at no extra cost and removes over 99% of bulk water from the compressed air, resulting in corrosion free, longer life of end use equipments and less load on the dryer



## Cool air Efficient air cooling

The cooling system with fans and larger cooling surface area enhances the cooling of hot air. The fan motor uses significantly low power. The integrated fan-motor assembly maintains low temperature there by increasing the life of motor. Designed to meet CE norms, the cooling system enables ease of maintenance and ducting. More over, the complete system is insulated internally from other zones



## Robust, Reliable Reliability under extreme conditions

Global series compressors are designed to perform at extreme temperatures - from hot summer to cold winter and from dry to extremely humid conditions





Neuron II available as option



## Intelligent control

### Microcontroller edge

- Built-in Dryer Dew Point integration
- VFD Parameter (Power, HMR, Frequency, Ampere, Voltage)
- Read out and closed loop control
- Selectable AO (Pressure/Temperature/Dew Point) for DCS integration
- Controlled drain system



## Reports

- Cumulative Report (Run Hours, Load Hours, Unload Hours, Stop Hours, Fault Hours and remaining AFCT, OFCT, OSCT, OCT and RGT)
- Detail Report - Previous 15 Days (Load Hours, Unload Hours, Stop Hours, Fault Hours, and Number of times machine stopped due to standby)
- Fault Report - (Previous 99 Faults in chronological Order with Real Time stamping and type of fault)



## Remote monitoring

- **DCS ( MODBUS RTU/RS 485):** Controller is enabled to synchronize with Distributed Control System - control of compressor from control panel of customer
- **SCADA :** Compressor control through PC with remote monitoring by Supervisory Control And Data Acquisition process
- **Alerts on GSM:** Connection to phone (GSM)/ RS485 networking



## Safety and interlocks

Global Series compressors are designed and perfected to ensure highest level of safety

- Regulating pressure switch (Blow Down valve)
- High pressure switch (Shutdown valve)
- High air-oil temperature switch
- Pressure relief valve
- Single phase preventer

## Compressor near point of use

Compressors can be placed anywhere in assembly area without any special foundation:

- Low Noise
- Low Vibration
- Compact





## Downstream Accessories

### Air Filter

Capacity : 1 - 90 m<sup>3</sup>/min  
 Working pressure : 5 - 10 bar g  
 Filtration Range : 1 - 0.003 microns



### Air Receiver

Capacity : 0.3 - 20m<sup>3</sup>  
 Working pressure : 7 - 13 bar g  
 Code of construction :  
 ASME Sec VIII Div. 1 or IS2825



## Automated Supply Side Controller

ELGI's ASSC, the master controller, can manage upto 12 positive displacement compressors including compressors of different capacities, different types (fixed speed, variable speed and variable capacity) and in any combination or configuration



## Drain Valves

Timer Controlled and Zero loss

Capacity: upto 100 cfm  
 Working pressure: 7-13 bar



## After Sales Solutions

A wide range of After Sales products and services is designed to add maximum value for our customers. Guaranteed serviceability within 24 hours ensures optimum availability and reliability of the compressors with the lowest possible operating costs

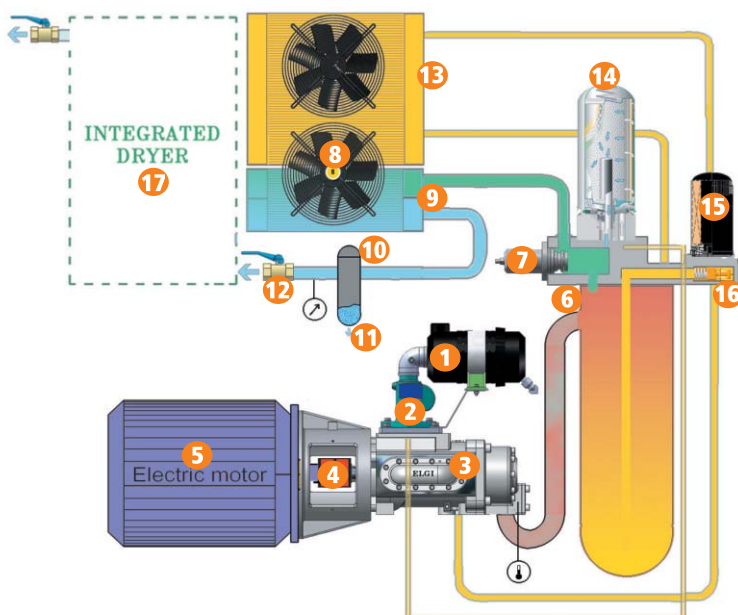
### Genuine Spares and Service

Elgi Genuine Spares helps in avoiding unexpected compressor failures and the risk of consequential damage to other vital compressor components. Elgi spares are designed, manufactured and checked for quality to meet the standards of a new compressor. The spares undergo continuous improvement to provide best results and are available through the vast network of Elgi dealers in India and International markets

### Elgi Air Audit

Elgi Air Audit helping in improving the performance of the compressors by identifying the areas of wastage in the system. Elgi's air audit services are offered in areas including generation, distribution and demand side systems

## Schematic Diagram



1. Air Intake Filter
2. Suction Control Valve
3. Airend
4. Drive Coupling
5. Electric Motor
6. Air-Oil Separator Tank
7. Minimum Pressure Valve
8. Cooling Fan
9. After Cooler
10. Moisture Separator
11. Automatic Drain
12. Outlet Valve
13. Oil Cooler
14. Air-Oil Separator
15. Oil Filter (spin-on)
16. Thermal Valve Unit
17. Integrated Air Dryer

■ HOT OIL ■ HOT AIR ■ COOLED AIR ■ HOT AIR OIL MIXTURE



## Superior air quality

In-built air treatment (optional)

### In-built Elgi Airmate Refrigerant Air Dryer

The In-built Elgi Refrigerant Air Dryer uses eco-friendly refrigerant and its optimal design meets dew point range of 3°C - 7°C. The design ensures safety with minimum pressure drop and maximum thermal efficiency. Dryer designs meet ISO 8573 standards for performance.

- Energy efficient rotary gas compressor
- 3 in 1 Heat exchanger bringing in efficiency and compactness to dryer package.
- Internally Grooved Condenser which increases heat transfer efficiency and brings compactness to the package
- Energy loss due to pressure drop is nil
- Non cyclic control ensuring stabilized dew point for various input load
- Eco friendly gas - R407C keeps environment unpolluted
- Single door access for routine check up and preventive maintenance

## Energy Saving -The CONSERVE way

### ELGI Conserv Variable Frequency Drives (VFD)

Matches compressor output with demand by varying motor speed. The power consumption reduces in line with the reduction in demand. Helps in eliminating the frequent load-unload cycle and also the wasted power from the energy bill.

A fixed speed compressor operates on a load unload band of at least 10 psi around the working pressure whereas with Elgi VFD, compressor can be operated within a band of 2 psi. Since compressor is not operated under higher than working pressure requirements, there is substantial energy saving. For every 2 psi reduction in operating pressure, there is 1% power saving.

In a fixed speed compressor with Star-Delta starter, starting current is as high as three times the full load current (FLC). With Elgi VFD starting, starting current is less than the FLC. This helps to avoid using heavy rated components like fuses, MCCB, cable size, generator rating, isolators etc.

For compressed air systems with fluctuating demand pattern, return on investment due to power saving will be less than 12 months.



### Advantages:

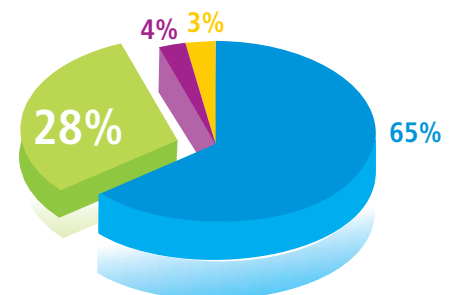
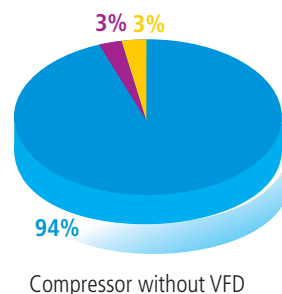
#### Electrical:

- Low starting current
- High efficiency
- Improved power factor
- Reduced maximum demand


#### Mechanical:

- Minimum maintenance
- Smooth start
- Smooth control

### 10 Year Life Cycle Cost



- Electricity
- Equipment
- VFD Saving
- Maintenance

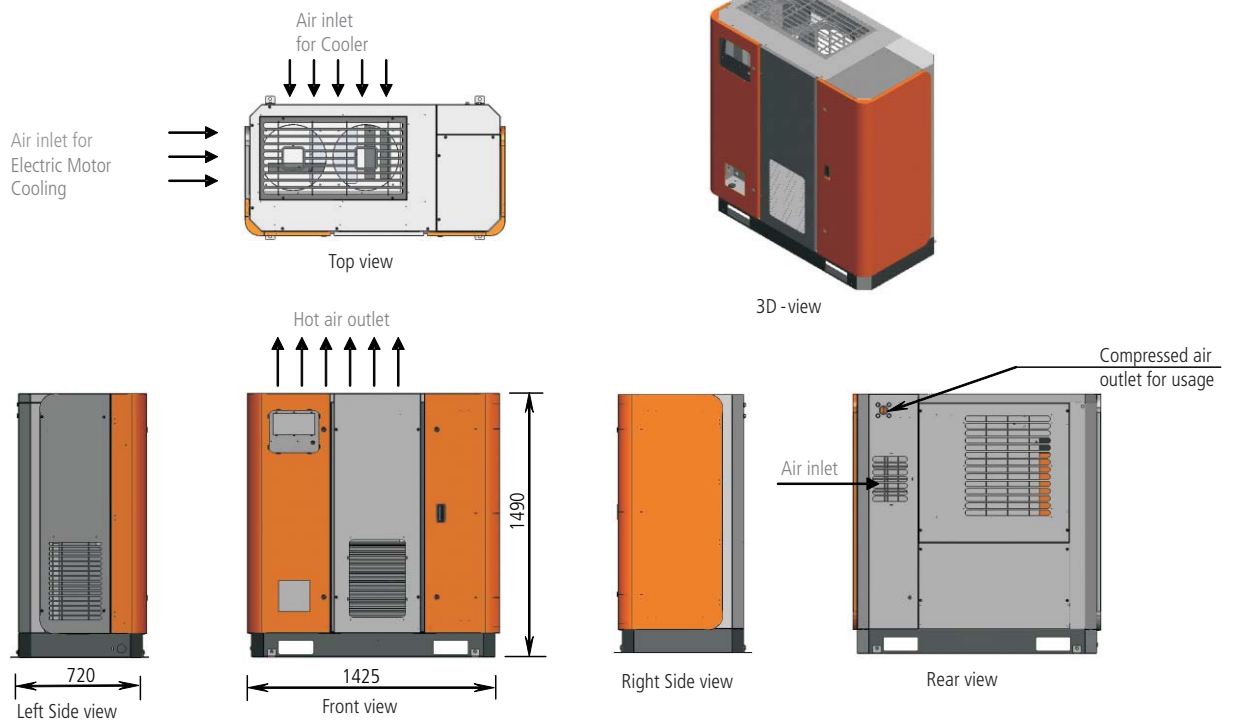
Compressor with 

Model	Power		Capacity		Working Pressure		MAX		Weight			Noise Levels
	kW	HP	m³/min	cfm	bar g	psi g	bar g	psi g	comp. Kg	comp. with dryer Kg	comp. with dryer +VFD Kg	
E11-7.5	11	15	2.01	71	7	102	7.5	109	534	605	612	69
E11-8.5	11	15	1.84	65	8	116	8.5	123	534	605	612	69
E11-10	11	15	1.7	60	9.5	138	10	145	534	605	612	69
E11-13	11	15	1.39	49	12.5	181	13	189	534	605	612	69
E15-7.5	15	20	2.72	96	7	102	7.5	109	630	701	708	69
E15-8.5	15	20	2.49	88	8	116	8.5	123	630	701	708	69
E15-10	15	20	2.27	80	9.5	138	10	145	630	701	708	69
E15-13	15	20	1.95	69	12.5	181	13	189	565	636	643	69
E18-7.5	18	25	3.26	115	7	102	7.5	109	680	788	806	69
E18-8.5	18	25	3.11	110	8	116	8.5	123	680	788	806	69
E18-10	18	25	2.78	98	9.5	138	10	145	680	788	806	69
E18-13	18	25	2.27	80	12.5	181	13	189	600	709	728	69
E22-7.5	22	30	3.85	136	7	102	7.5	109	700	810	828	69
E22-8.5	22	30	3.74	132	8	116	8.5	123	700	810	828	69
E22-10	22	30	3.23	114	9.5	138	10	145	700	810	828	69
E22-13	22	30	2.69	95	12.5	181	13	189	630	740	758	69

Overall dimension(mm) : 1425 x 720 x 1490(LxBxH)

- Free Air Delivery (FAD) are tested as per ISO 1217 : 2009 Annex .C
- All standard models are air cooled
- Maximum pressure is the cut off pressure set in the unit
- FAD indicated is for the full package measured at the outlet after moisture separator
- Displayed here is the standard range . For any customization, please contact our sales office
- Noise level measured as per CAGI Pneurop PN8NTC 2.3 at 1m distance, free-field measurement
- Due to continuous improvements, the specifications are subject to change without prior notice

## Dimensions



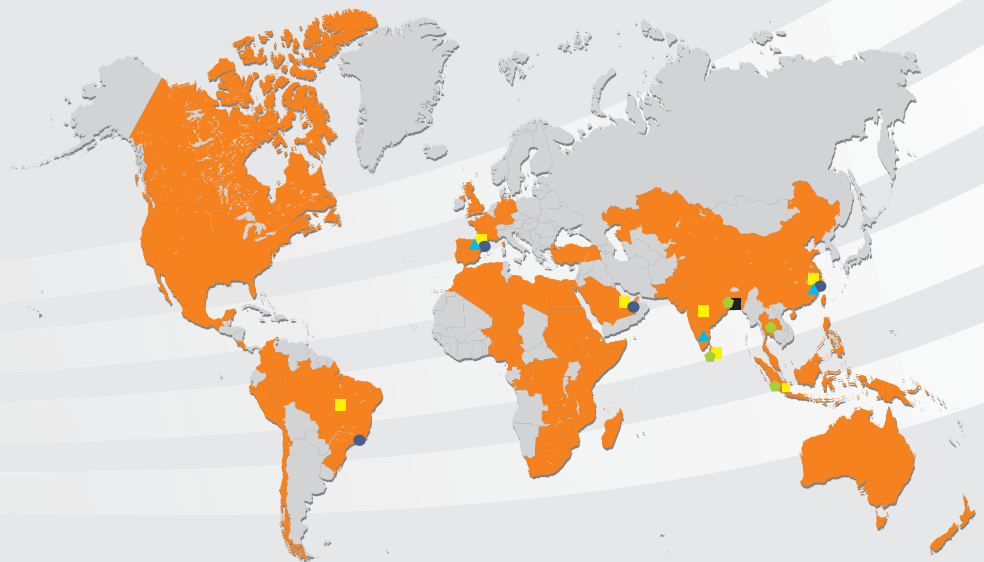
# Customer care system

Elgi's customer care centre works 12 hours a day and 6 days with two shifts of staffing through a toll-free telephone number, 1800-425-3544 in India.



## global REACH

Elgi serves the world marketplace. Over two million compressors are powering business in 63 countries worldwide. The company offers a strong sales and service network of 14 domestic and 6 overseas offices, besides a well-knit distribution network of 114 dealers in India and 165 distributors worldwide. In addition to manufacturing facilities in India, Elgi has manufacturing facilities in China and France. Elgi has also set up warehouse facilities in Brazil and Middle East.



- Customers
- Personnel
- Wholly owned Subsidiaries
- Production Centres and Offices
- Overseas Offices

# ELGI

Think Long Run

Elgi Equipments Ltd.

Singanallur, Coimbatore-641005, India, Tel: +91-422-2589555  
Fax: +91-422-2573697 International Division: Fax: +91-422-2589401  
Email: enquiry@elgi.com Visit us at www.elgi.com

**Ahmedabad Ph:**(91-79) 26583736, 26581274 **Fax:**26587683 **Bangalore Ph:**(91-80) 22240674,22220296 22122479 **Fax:**22293274 **Bhopal Ph:**(91-755) 2578281, 2578317, 4273317 **Fax:**2578289 **Chennai Ph:**(91-44) 28172599, 28172699, 28173599 **Fax:**28174699 **Coimbatore Ph:**(91-422) 2589555 **Fax:**2573697 **Hyderabad Ph:**(91-40) 27000435,27000437, 27000431 **Fax:**27000438 **Jaipur Ph:**(91-141) 2970120 **Fax:**2970121 **Kochi Ph:**(91-484) 2360155 **Fax:**2351904 **Kolkata Ph:**(91-33) 22834270, 22834271 **Fax:** 22834272 **Mumbai Ph:**(91-22) 42161000, 28519777**Fax:**28591601**New Delhi Ph:**(91-11) 25437593, 25153644,25928095 **Fax:**25459375 **Pune Ph:**(91-20)27145288,27148892 **Fax:**27145289 **Raipur Ph:**(91-771) 4073759 **Fax:**4073579 **Tiruchengode Ph:**(91-4288) 257137**Fax:**257693 **Global Support Centre Ph:**(91-422) 2625868, 2625869 **Fax:**2625985

**Production centre and offices:** India, China, France  
**Wholly-owned subsidiaries and offices :** France, Sharjah, Brazil, China  
**Overseas offices:** Indonesia, Bangladesh, Thailand, Srilanka, Australia

Toll free customer care number **1800 - 425 - 3544**

Marketed by:

