

SCREW COMPRESSORS for air applications







Il gruppo Termomeccanica Tradizione, tecnologia e innovazione

Termomeccanica fu fondata in La Spezia nel 1912 come "Società Cerpelli & C", divenendo successivamente negli anni 30 "Termomeccanica Italiana S.p.A." Nel gennaio 1995, le attività della società Termomeccanica Italiana S.p.A., appartenente al Gruppo di Stato EFIM in liquidazione, sono state cedute a Termomeccanica S.p.A. affinché, con management privato, fossero perseguite le storiche tradizioni della società nei campi manifatturiero e impiantistico.

Termomeccanica è oggi un gruppo industriale italiano tra i principali operatori nei settori dell'Ecologia e della Meccanica. Leader nazionale nella produzione di grandi pompe industriali e nell'impiantistica ecologica, il gruppo progetta, realizza e gestisce soluzioni tecnologiche d'avanguardia.

Termomeccanica svolge le sue attività in Italia ed all'estero attraverso le seguenti società operative, specializzate nei rispettivi mercati di riferimento:

TM.P. SpA Termomeccanica Pompe sviluppa, costruisce e commercializza pompe centrifughe ingegnerizzate per applicazioni nei settori della Produzione di Energia, Dissalazione, Movimentazione delle Acque, dell'Oil & Gas ed Industria

TM.I.C. Srl Termomeccanica Industrial Compressors è leader italiano nella progettazione, costruzione e commercializzazione di compressori rotativi lubrificati ad olio per applicazioni aria e gas.

TM.E. SpA Termomeccanica Ecologia si occupa della progettazione e costruzione di opere di ingegneria ambientale ed industriale per la Produzione di Energia (da rifiuti solidi urbani e da Fonti Rinnovabili quali biomasse, biogas, eolico e solare) e per il trattamento tecnologico delle aque ad uso civile ed industriale (potabilizzazione, dissalazione e depurazione).



Termomeccanica Group Tradition, technology & innovation

Termomeccanica was established in 1912 in La Spezia as "Cerpelli & C." and later became a stock company in the 1930s, taking the name of "Termomeccanica Italiana S.p.A."

In January 1995, further to the dissolution of EFIM, the state-owned group it belonged to, the activities and shares of Termomeccanica Italiana S.p.A. were transferred to privately-owned and -managed Termomeccanica S.p.A. with the aim to continue the company's strong heritage in the manufacturing and turn-key plants sectors.

Today, Termomeccanica is an Italian industrial group which is amongst the main players of both the Environmental and Mechanical sectors. The group, national leader in the manufacturing of large industrial pumps and in environmental turn-key plant projects, designs, develops and manages cutting edge technological solutions.

Termomeccanica carries out its various business activities in Italy and abroad through its operational companies, each specialized in one of the group's key market:

TM.P. SpA Termomeccanica Pompe designs, manufactures and commercializes engineered centrifugal pumps for the fields of Power Generation, Desalination, Water Transmission, Oil & Gas and Heavy Industry.

TM.I.C. Srl Termomeccanica Industrial Compressors is the Italian leader in developing, manufacturing and commercializing oil injected screw compressors for air and gas applications.

TM.E. SpA Termomeccanica Ecologia is a turn-key EPC contractor for Environmental & Industrial plants for the Production of Energy (Waste to Energy and Renewable Energy) and Technological Water Treatments (potabilization, desalination and waste water purification for civil and industrial uses).

Oil injected scew compressor Sizes 2,2 to 900 kW

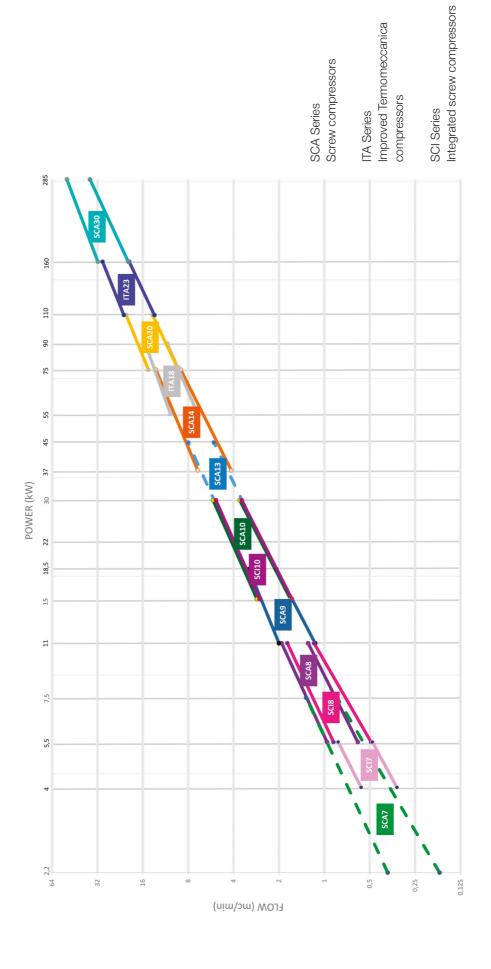
SCA-ITA

Range of products SCA-ITA Series - Product features	pag. 4 pag. 5-6
SCA7L Outside view drawing/Data Tables	pag. 7
SCA8D-A Outside view drawing/Data Tables	pag. 8
SCA8D-R Outside view drawing/Data Tables	pag. 9
SCA8G-A Outside view drawing/Data Tables	pag. 10
SCA8G-R Outside view drawing/Data Tables	pag. 11
SCA9D-R Outside view drawing/Data Tables	pag. 12
SCA9G-R Outside view drawing/Data Tables	pag. 13
SCA10D-R Outside view drawing/Data Tables	pag. 14
SCA10G-R Outside view drawing/Data Tables	
SCA13D-R	pag. 15
Outside view drawing/Data Tables SCA13G-R Outside view drawing/Data Tables	pag. 16
Outside view drawing/Data Tables SCA14D-R	pag. 17
Outside view drawing/Data Tables SCA14G-R	pag. 18
Outside view drawing/Data Tables SCA20D-RM	pag. 19
Outside view drawing/Data Tables SCA20G-RM	pag. 20
Outside view drawing/Data Tables SCA30D-R	pag. 21
Outside view drawing/Data Tables SCA30G-R	pag. 22
Outside view drawing/Data Tables SCA30TWIN	pag. 23
Outside view drawing/Data Tables	pag. 24
ITA 18D-R	
Outside view drawing/Data Tables ITA18G-R	pag. 26
Outside view drawing/Data Tables ITA23D-R	pag. 27
Outside view drawing/Data Tables ITA23G-R	pag. 28
Outside view drawing/Data Tables	pag. 29

SCI

SCI Series - Product features	pag. 30-31
SCI 7D Outside view drawing/Data Tables	pag. 33
SCI 8D Outside view drawing/Data Tables	pag. 34
SCI 8G Outside view drawing/Data Tables	pag. 35
SCI 10D Outside view drawing/Data Tables	pag. 36
SCI10G Outside view drawing/Data Tables	pag. 37
SLC	
SLC Series - Product features	pag. 39
SLC 1 Outside view drawing/Data Tables	pag. 40
SLC 2 Outside view drawing/Data Tables	pag. 41

The Italian leader production of screw compressors for air, gas and special applications



SCA oil injected screw compressor

ITA Improved Termomeccanica compressor

Shaft seal

A new configuration of the seal ring, including a two-lip seal, a dust lip in PTFE and a dust ring, assures great reliability, long life and resistance to impurities.

Casing

All casing machining work is performed with modern computer numerical control machines, which allow continuous control and testing, thus guaranteeing our casings quality.

Painting

All TMIC screw compressors are painted with a modern and environmentally-friendly protective paint. This surface finish effectively protects the castings against corrosion, even after many years of operation.



Rotors

The heart of every screw compressor is its air end, this is why TMIC pays particular care to its manufacturing process. The company uses the latest-generation CNC machines and top-grade materials so as to guarantee the best tolerances and highest reliability. Special attention is also given to the final grinding process. A multistep computer-aided rotor control system also contributes to giving 100% accuracy to each TMIC rotor profile.

Bearing

Given the rotational speeds and bearing loads they work at, TMIC compressors are equipped with top quality bearings that ensure the highcapacity and long-life requested.

SCA-ITA Series

Product features

Main features

Hight volumetric efficiency

Low running cost

Low air discharge temperature

Low noise level

SCA standard discharge pressure range – from 3 to 15 barg (43.5 to 220 psig); higher pressure upon request

ITA discharge pressure range – from 3 to 15 barg (43.5 to 220 psig)

PTFE double lip seal

Assembly system

The assembly systems for the SCA series are:

- base plate mounted
- flange mounted

Sizes

SCA7

SCA7L

SCA8

SCA8D-A - SCA8D-R - SCA8G-A - SCA8G-R

SCA9

SCA9D-R - SCA9G-R

SCA10

SCA10D-R - SCA10G-R

SCA13

SCA13D-R - SCA13G-R

SCA14

SCA14D-R - SCA14G-R

SCA20

SCA20D-RM - SCA20G-RM

SCA30

SCA30D-R - SCA30G-R - SCA30TWIN

ITA18

ITA18D-R - ITA18G-R

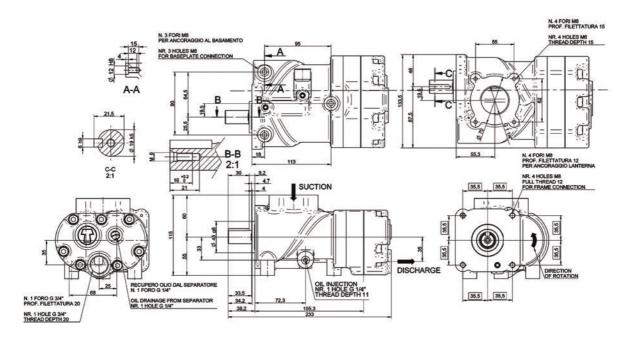
ITA23

ITA23D-R - ITA23G-R

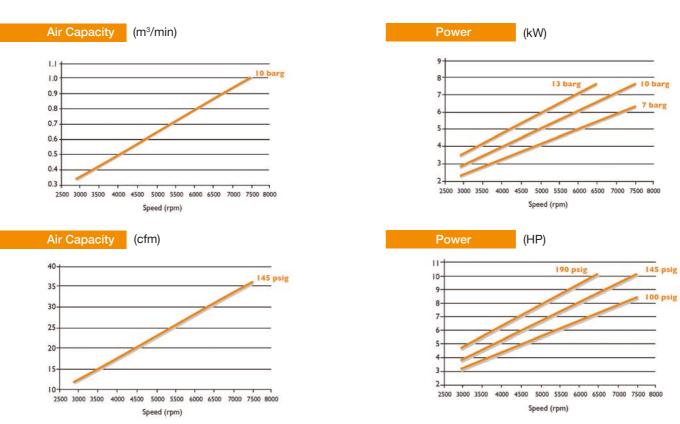
- A axial outlet
- **B** radial outlet
- D direct or belt driven coupling
- G gear box

SCA7L

Outside view drawing



Data Tables

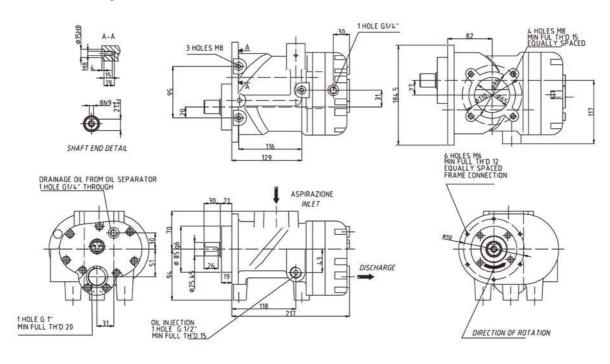


Drive: Male Lobe combination: 5/6 Male rotor size: 59.7 mm Female rotor size: 49.7 mm L/D: 1.70

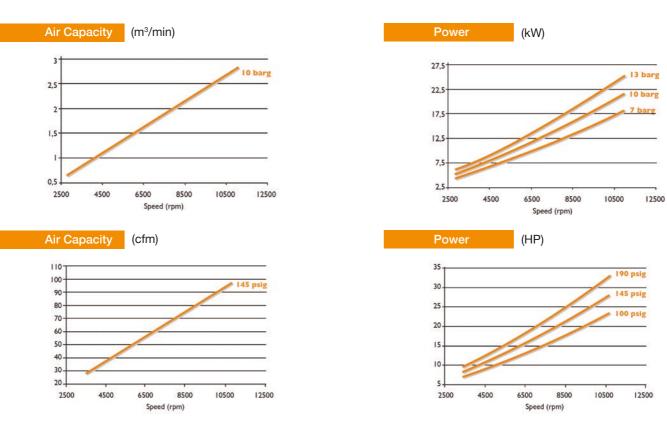
Working pressure: min 3 barg/40 psig - max 13 barg/190 psig Weight: 10 Kg - 22 lbs

SCA8D-A

Outside view drawing



Data Tables

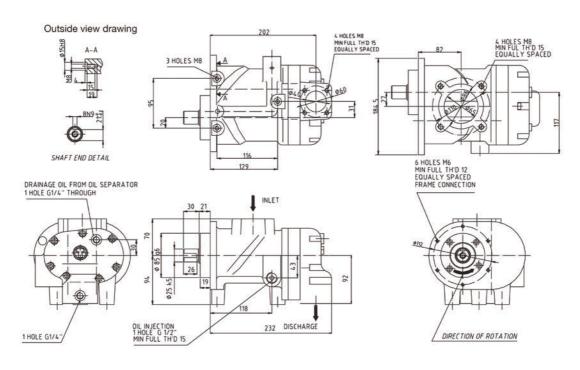


Drive: Male Lobe combination: 5/6 Male rotor size: 74 mm Female rotor size: 61.6 mm L/D: 1.65

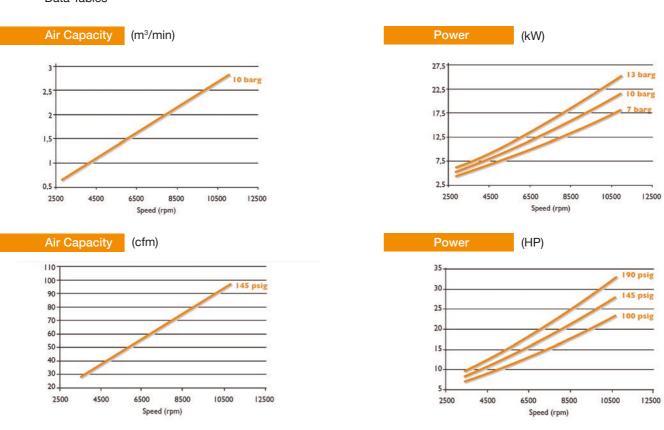
Working pressure: min 3 barg/40 psig - max 15 barg/220 psig Weight: 18 ${\rm Kg}$ - 40 ${\rm lbs}$

SCA8D-R

Outside view drawing



Data Tables

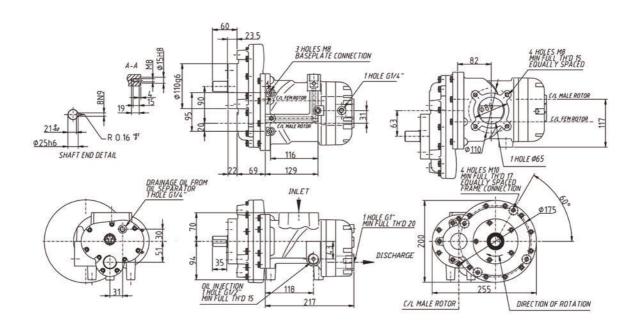


Drive: Male Lobe combination: 5/6 Male rotor size: 74 mm Female rotor size: 61.6 mm L/D: 1.65

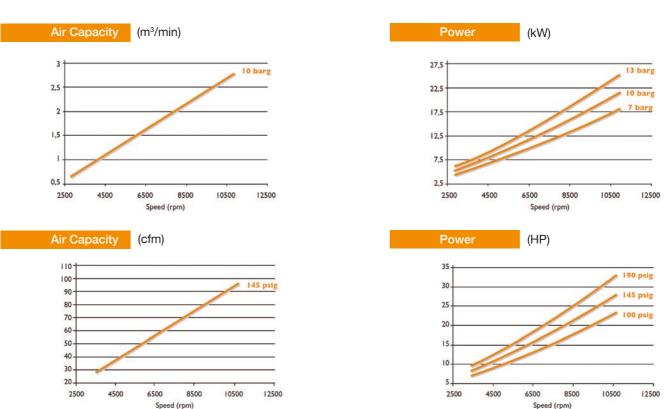
Working pressure: min 3 barg/40 psig - max 15 barg/220 psig Weight: 20 Kg - 44 lbs

SCA8G-A

Outside view drawing



Data Tables



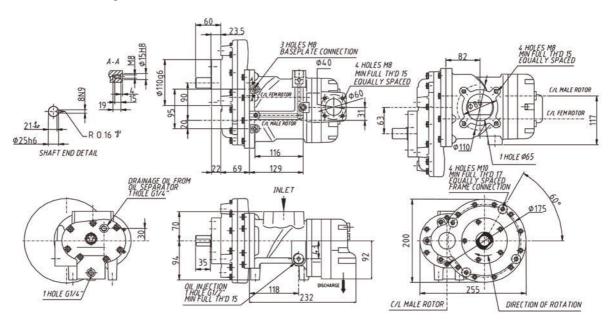
Drive: Male Lobe combination: 5/6 Male rotor size: 74 mm Female rotor size: 61.6 mm

L/D: 1.65

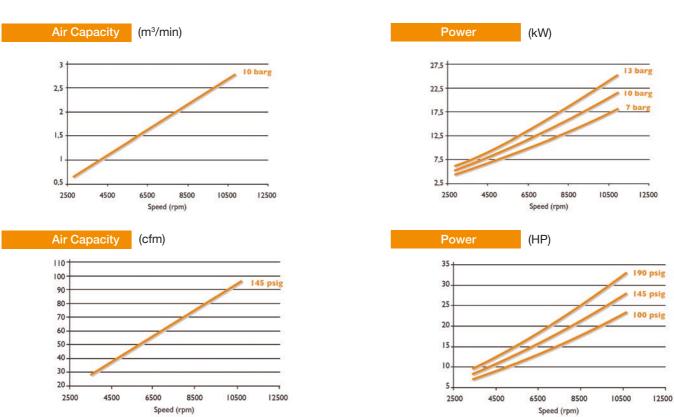
Working pressure: min 3 barg/40 psig - max 15 barg/220 psig Weight: 30 Kg - 66 lbs

SCA**8G-R**

Outside view drawing



Data Tables

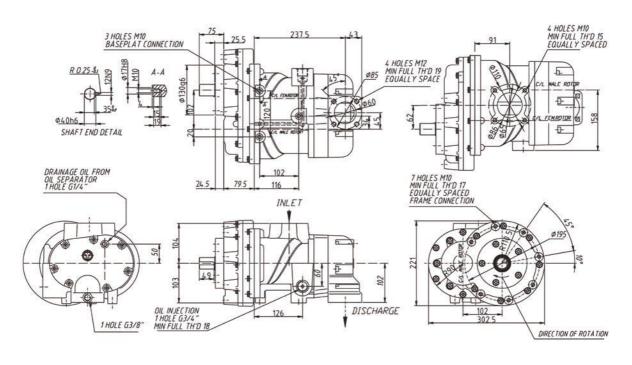


Drive: Male Lobe combination: 5/6 Male rotor size: 74 mm Female rotor size: 61.6 mm L/D: 1.65

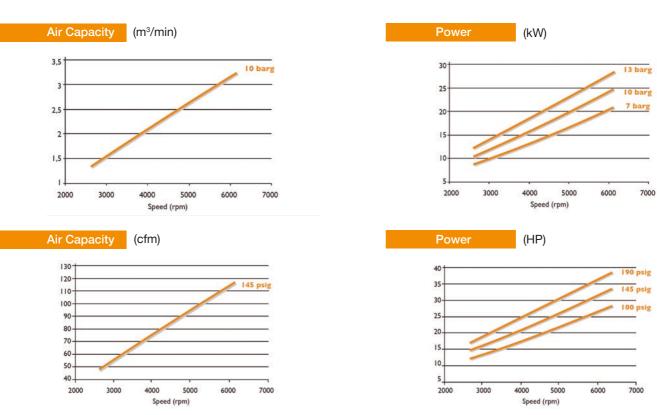
Working pressure: min 3 barg/40 psig - max 15 barg/220 psig Weight: $32\ \text{Kg}$ - $71\ \text{lbs}$

SCA9D-R

Outside view drawing



Data Tables



Drive: Male Lobe combination: 5/6

Male rotor size: 108.6 mm

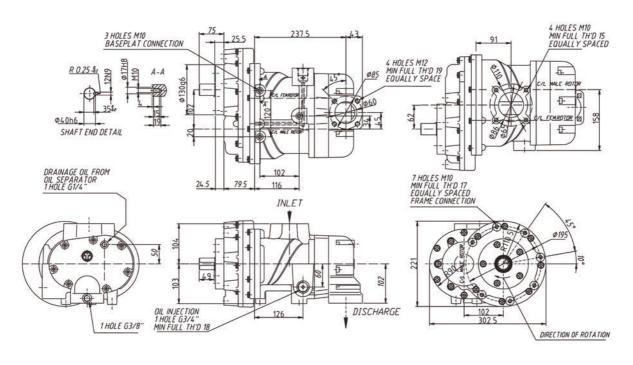
Female rotor size: 90.4 mm

L/D: 1.09

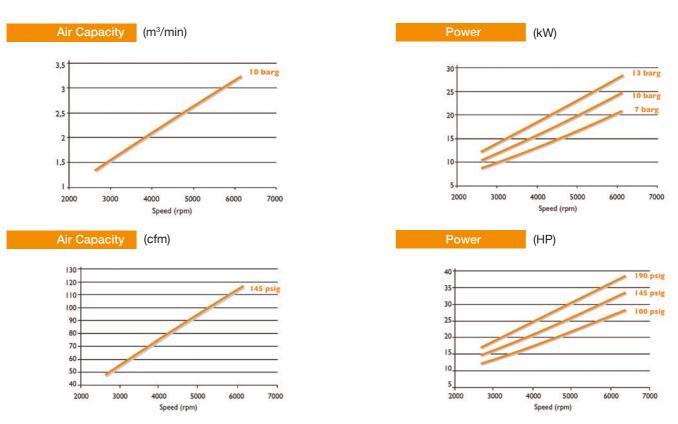
Working pressure: min 3 barg/40 psig - max 15 barg/220 psig Weight: 40 Kg - 88 lbs

SCA9G-R

Outside view drawing



Data Tables



Drive: Male Lobe combination: 5/6

Male rotor size: 108.6 mm

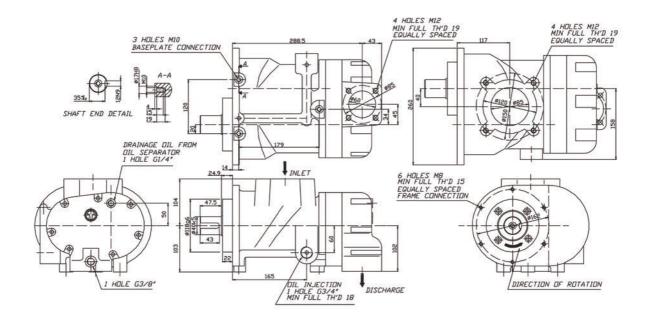
Female rotor size: 61.6 mm

L/D: 1.09

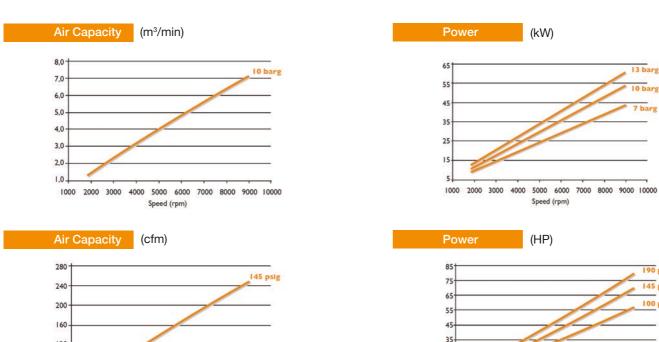
Working pressure: min 3 barg/40 psig - max 15 barg/220 psig Weight: 61 Kg - 134 lbs

SCA10D-R

Outside view drawing



Data Tables



Drive: Male Lobe combination: 5/6 Male rotor size: 108.6 mm

1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

Speed (rpm)

Female rotor size: 90.4 mm

L/D: 1.56

Working pressure: min 3 barg/40 psig - max 15 barg/220 psig Weight: 45 Kg - 99 lbs

4000 5000 6000 7000 8000 9000 10000

Speed (rpm)

25

1000 2000 3000

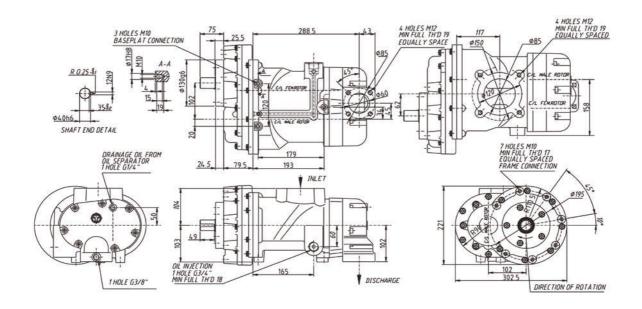
190 psig

145 psig

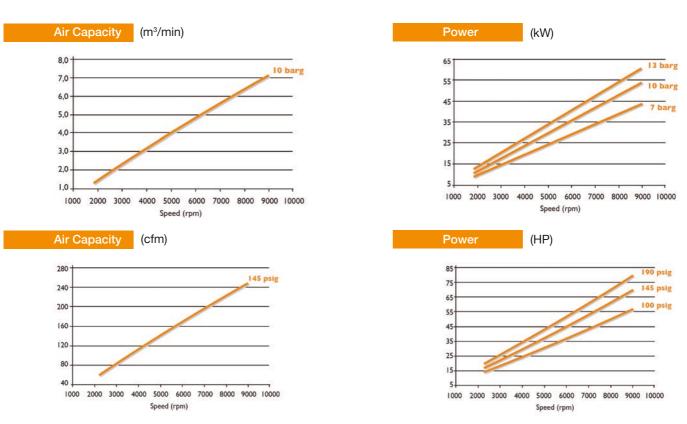
120

SCA10G-R

Outside view drawing



Data Tables

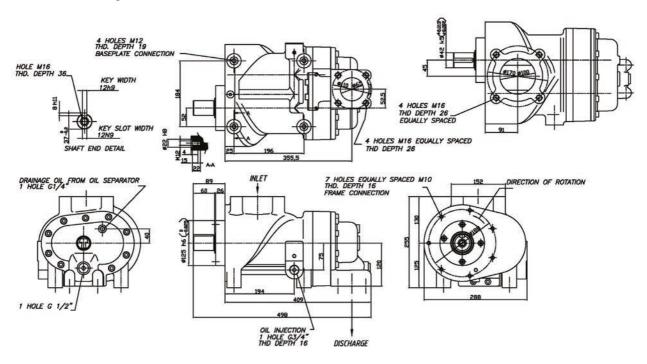


Drive: Male Lobe combination: 5/6 Male rotor size: 108.6 mm Female rotor size: 90.4 mm L/D: 1.56

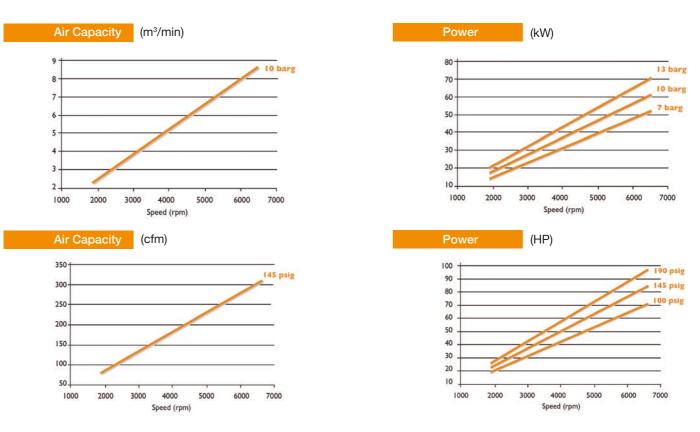
Working pressure: min 3 barg/40 psig - max 15 barg/220 psig Weight: $66\ \mathrm{Kg}$ - $146\ \mathrm{lbs}$

SCA13D-R

Outside view drawing



Data Tables

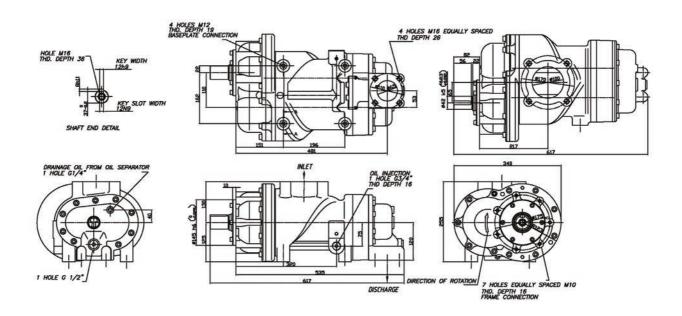


Drive: Male Lobe combination: 5/6 Male rotor size: 126 mm Female rotor size: 105 mm L/D:1.70

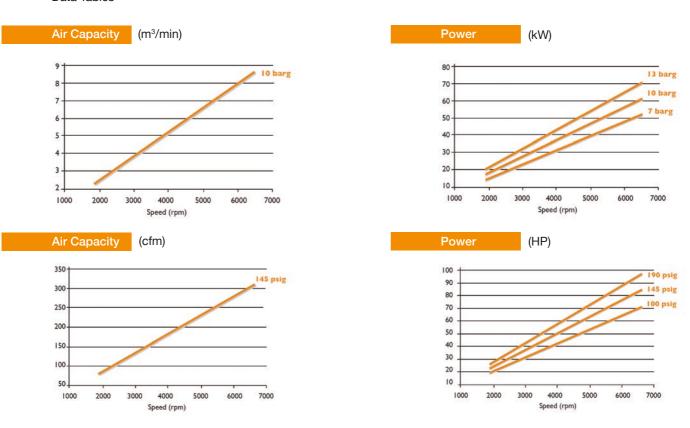
Working pressure: min 3 barg/40 psig - max 15 barg/220 psig Weight: 74 Kg - 163 lbs

SCA13G-R

Outside view drawing



Data Tables

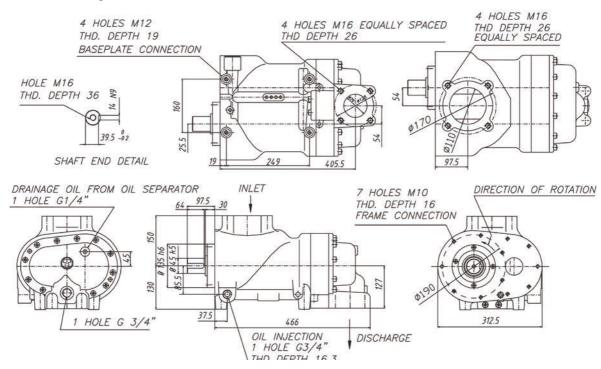


Drive: Male Lobe combination: 5/6 Male rotor size: 126 mm Female rotor size: 105 mm L/D: 1.70

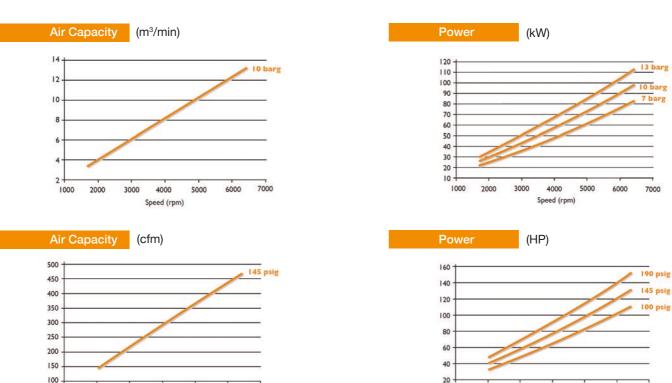
Working pressure: min 3 barg/40 psig - max 15 barg/220 psig Weight: 99 Kg - 218 lbs

SCA14D-R

Outside view drawing



Data Tables



Drive: Male Lobe combination: 5/6

3000

4000

Speed (rpm)

5000

1000

2000

Male rotor size: 147.3 mm

Female rotor size: 122.6 mm

7000

L/D:1.70

6000

Working pressure: min 3 barg/40 psig - max 15 barg/220 psig Weight: 108 Kg - 238 lbs

3000

4000

Speed (rpm)

5000

6000

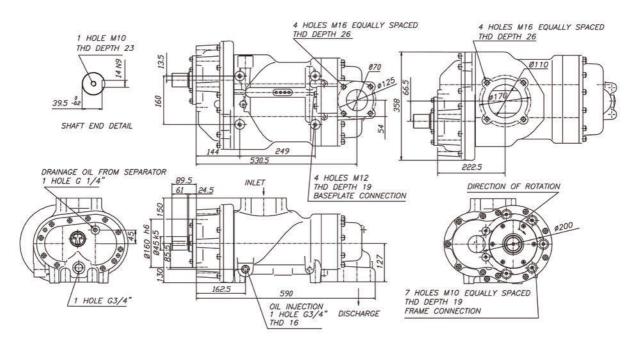
7000

1000

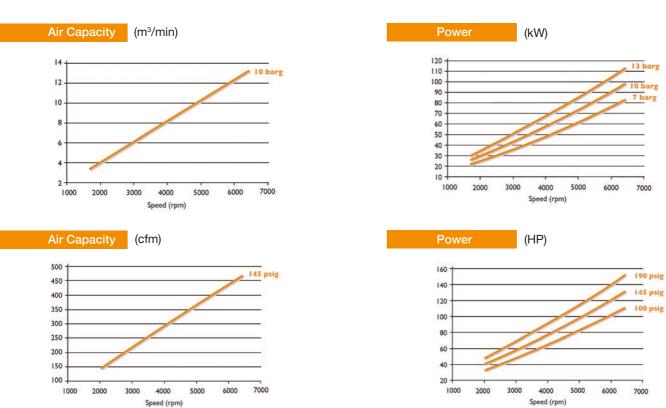
2000

SCA14G-R

Outside view drawing



Data Tables



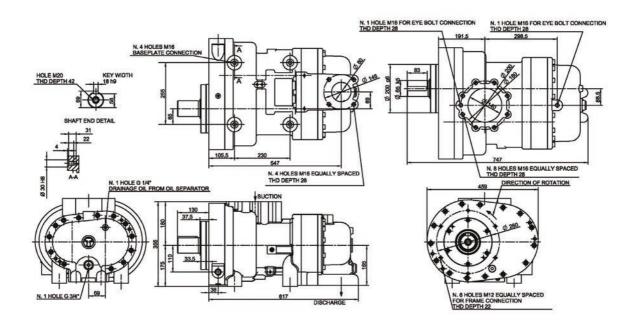
Drive: Male Lobe combination: 5/6 Male rotor size: 147.3 mm Female rotor size: 122.6 mm

L/D: 1.70

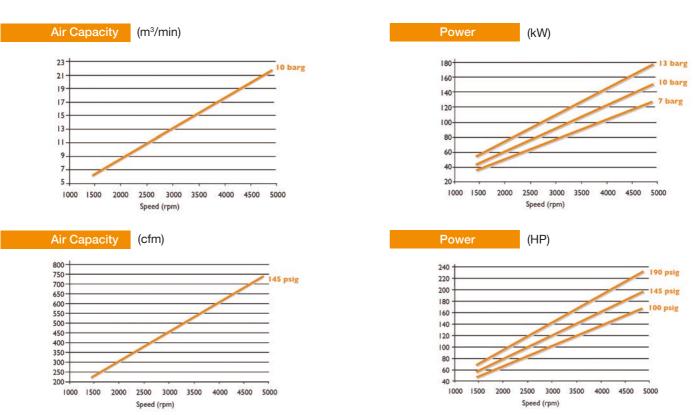
Working pressure: min 3 barg/40 psig - max 15 barg/220 psig Weight: 140 Kg - 309 lbs

SCA20D-RM

Outside view drawing



Data Tables



Drive: Male Lobe combination: 5/6

Male rotor size: 190 mm

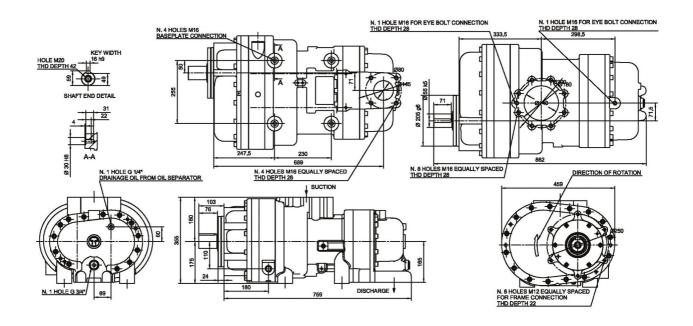
Female rotor size: 154.8 mm

L/D: 1.70

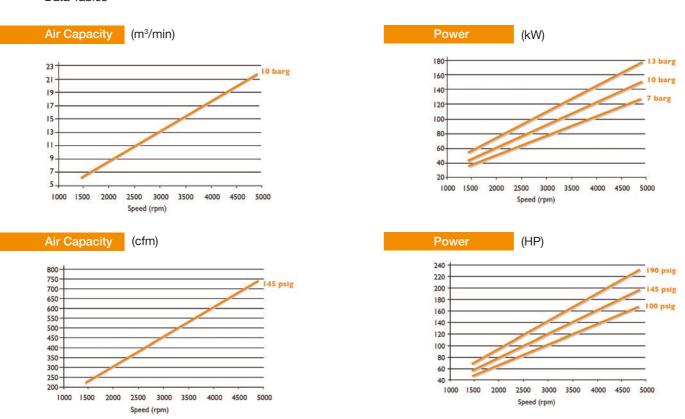
Working pressure: min 3 barg/40 psig - max 15 barg/220 psig Weight: 263 Kg - 580 lbs

SCA20G-RM

Outside view drawing



Data Tables



Drive: Male Lobe combination: 5/6

Male rotor size: 190 mm

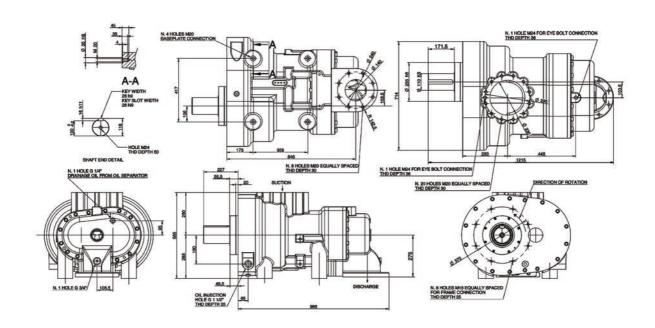
Female rotor size: 154.8 mm

L/D:1.70

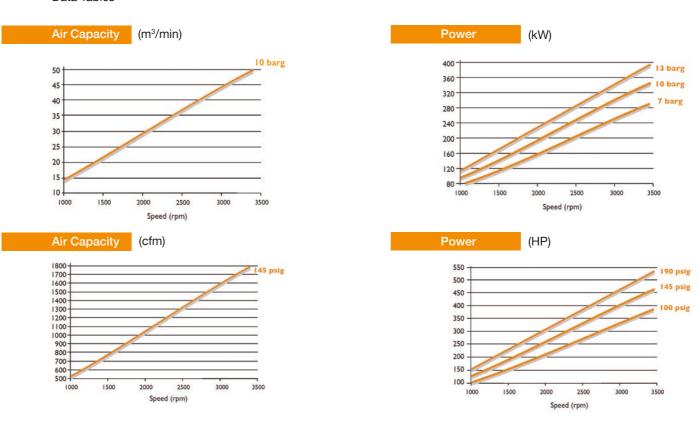
Working pressure: min 3 barg/40 psig - max 15 barg/220 psig Weight: 320 Kg - 705 lbs

SCA30D-R

Outside view drawing



Data Tables

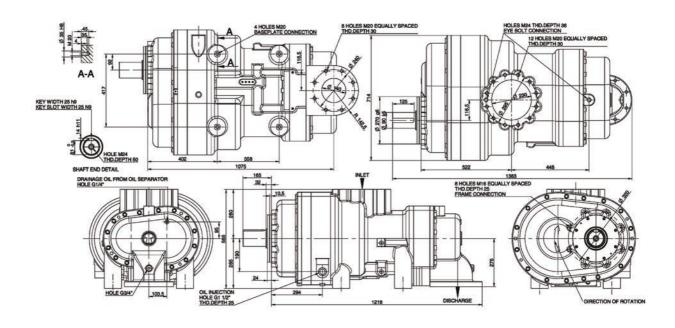


Drive: Male Lobe combination: 5/6 Male rotor size: 281 mm Female rotor size: 233.9 mm L/D: 1.70

Working pressure: min 3 barg/40 psig - max 15 barg/220 psig Weight: 888 Kg - 1957 lbs

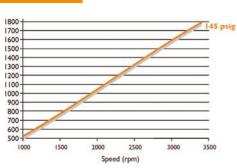
SCA30G-R

Outside view drawing



Data Tables







Drive: Male Lobe combination: 5/6 Male rotor size: 281 mm Female rotor size: 233.9 mm L/D: 1.70

Working pressure: min 3 barg/40 psig - max 15 barg/220 psig Weight: 1040 Kg - 2293 lbs

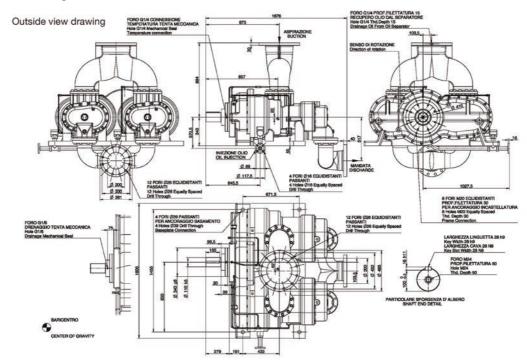
Speed (rpm)

200 -150 -

3500

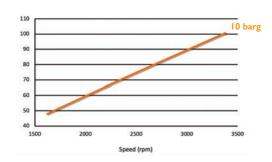
SCA30TWIN

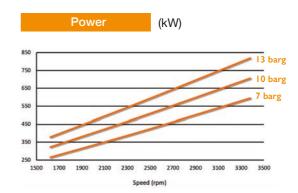
Outside view drawing



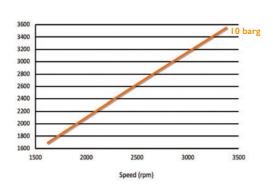
Data Tables







(cfm) Air Capacity



(HP) Power 190 psig 1100 1000 145 psig 900 100 psig 800 700 3300 1500 2100

Drive: Male Lobe combination: 5/6 Male rotor size: 281 mm Female rotor size: 233.9 mm L/D: 1.70

Working pressure: min 3 barg/40 psig - max 15 barg/220 psig

Weight: 2755 Kg - 6074 lbs

ITA SERIESIMPROVED TERMOMECCANICA COMPRESSORS

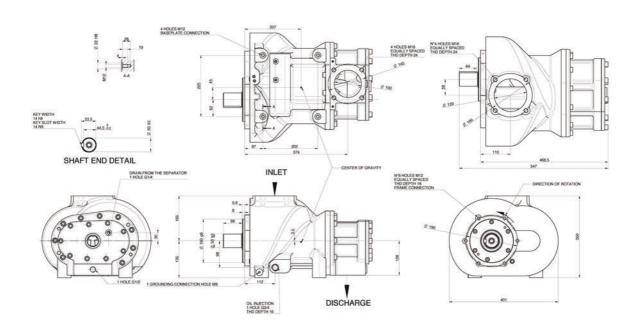


A machine fully dedicated to AIR applications

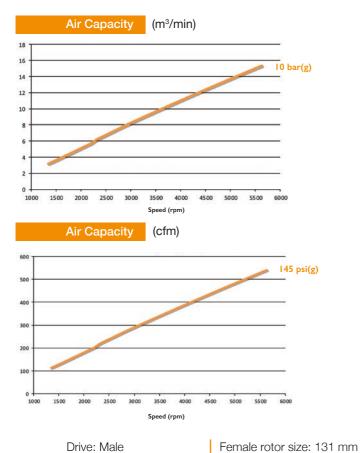
- Rotor profile completely designed by TMIC
- Optimized compact design
- Reduced speed operation
- High efficiency
- Low Noise

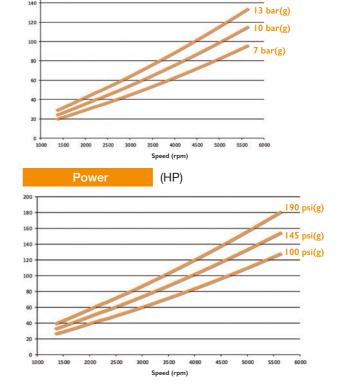
ITA**18D-R**

Outside view drawing



Data Tables





(kW)

Power

Working pressure: min 3 barg/40 psig - max 15 barg/220 psig Weight: 140 Kg - 309 lbs

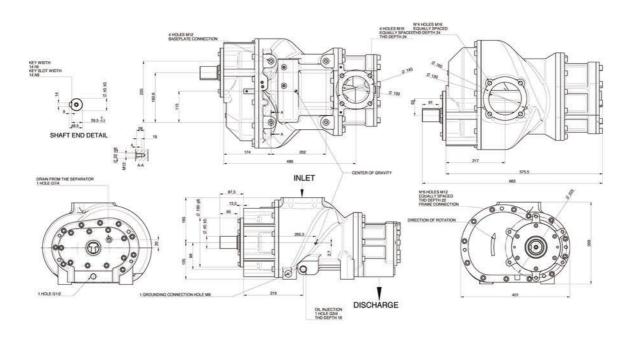
Lobe combination: 5/6

Male rotor size: 161.6 mm

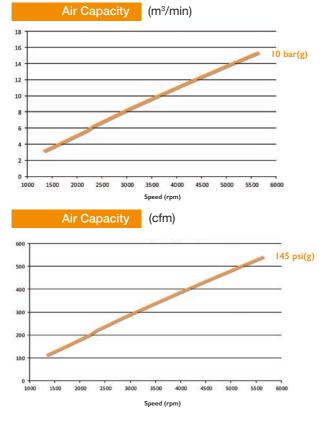
L/D: 1.57

ITA**18G-R**

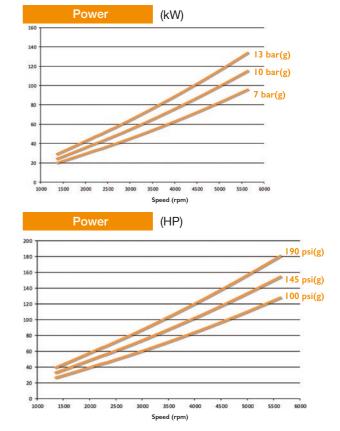
Outside view drawing



Data Tables



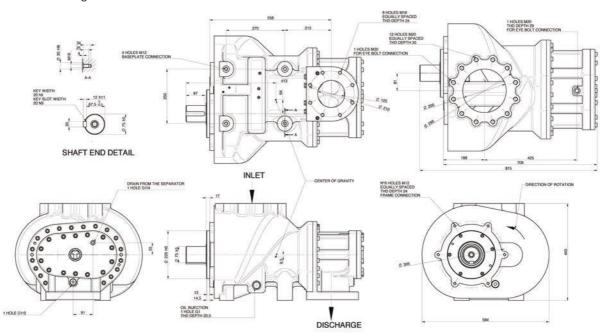
Drive: Male Lobe combination: 5/6 Male rotor size: 161.6 mm Female rotor size: 131 mm L/D: 1.57



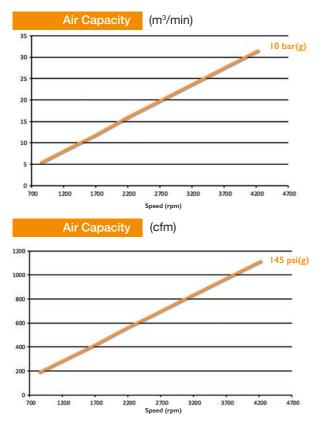
Working pressure: min 3 barg/40 psig - max 15 barg/220 psig Weight: 156 Kg - 344 lbs

ITA**23D-R**

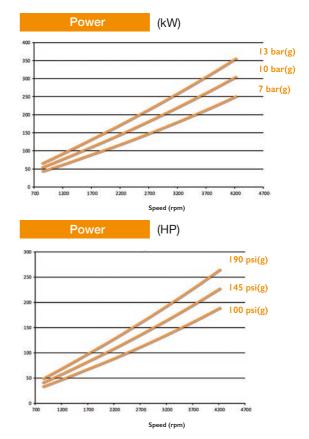
Outside view drawing



Data Tables



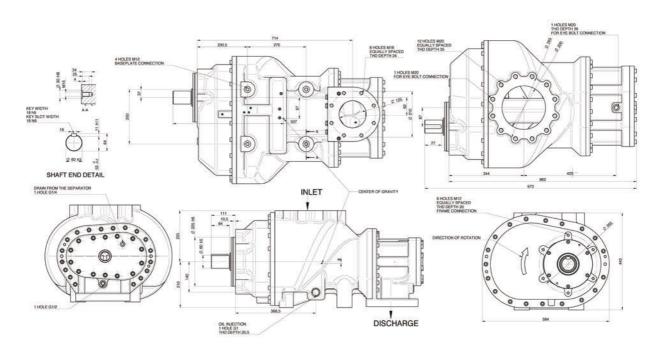
Drive: Male Lobe combination: 5/6 Male rotor size: 226.1 mm Female rotor size: 182.9 mm L/D: 1.57



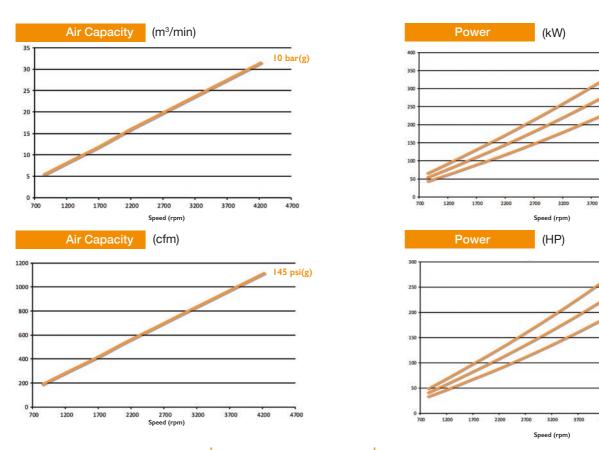
Working pressure: min 3 barg/40 psig - max 15 barg/220 psig Weight: 410 Kg - 904 lbs

ITA**23G-R**

Outside view drawing



Data Tables



Drive: Male Lobe combination: 5/6 Male rotor size: 226.1 mm Female rotor size: 182.9 mm L/D: 1.5

Working pressure: min 3 barg/40 psig - max 15 barg/220 psig Weight: 490 Kg - 1080 lbs

13 bar(g) 10 bar(g)

7 bar(g)

190 psi(g)

145 psi(g) 100 psi(g)

SCI new integrated oil injected screw compressor

Shaft seal

A new configuration of the seal ring, including a two-lip seal, a dust lip in PTFE and a dust ring, assures great reliability, long life and resistance to impurities.

Painting

All screw compressors have a modern, environmentally friendly, protective paint. The surface finish protects the castings effectively against corrosion even after many years of operation.

Air filter

The quality of the filters used ensures an optimal performance and reliability of the integrated SCI series compressor units.

Casing

All casing machining work is performed with modern computer numerical control machines, which allow continuous control and testing, thus guaranteeing our casings quality.



Rotors

The heart of every screw compressor is its air end, this is why TMIC pays particular care to its manufacturing process. The company uses the latest-generation CNC machines and top-grade materials so as to guarantee the best tolerances and highest reliability. Special attention is also given to the final grinding process. A multistep computer-aided rotor control system also contributes to giving 100% accuracy to each TMIC rotor profile.

Bearings •

Given the rotational speeds and bearing loads they work at, TMIC compressors are equipped with top quality bearings that ensure the high-capacity and long-life requested.

Oil Separator •

In the SCI series, the oil separation occurs in two stages: the first stage takes place inside the compressor (mechanical separation) while the second stage (finer separation) occurs through the coalescence of oil removing elements. During such stage, micro-fibres separate the oil drops from the compressed air. The separated oil, in large drops, is sent back to the compressor lubricating system.

TMIC Valves

The performance of a compressor is influenced by the quality of its valves. All TMIC's SCI series compressors are fitted with valves specifically designed to ensure high reliabilitHy and low-cost operation.

SCI Series

Product features

Main features

New profile 5/6 lobe relation High volumetric efficiency Low running cost Low air discharge temperature Low noise level

SCI standard discharge pressure range – from 3 to 15 barg (43.5 to 220 psig); higher pressure upon request PTFE double lip seal

Integration

Thermostatic valve
Minimum pressure valve
Intake regulator
Oil filter
Air filter
Oil separator filter
Solenoid filter
Oil recovery system

Sizes

SCI7

SCI7D

SCI8

SCI8D - SCI8G

SCI10

SCI10D - SCI10G

D direct version

 ${\bf G}$ gearbox version

TMIC

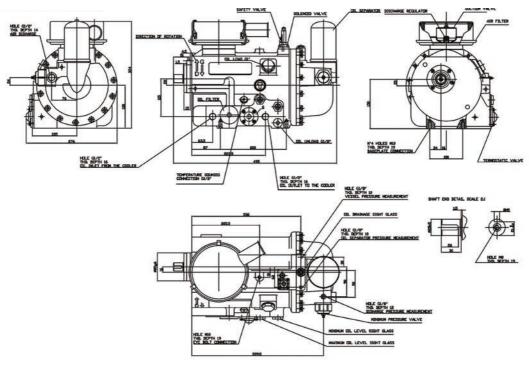
A unique partner for your special air applications



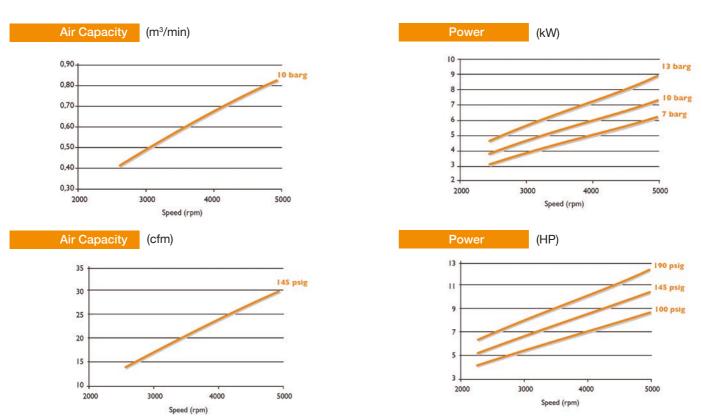


SCI7D

Outside view drawing



Data Tables

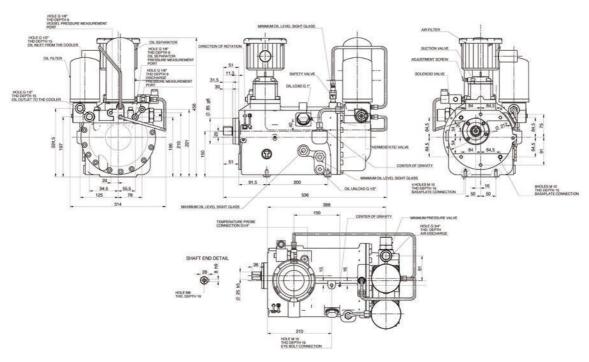


Drive: Male Lobe combination: 5/6 Male rotor size: 74 mm Female rotor size: 61.6 mm L/D: 1.25

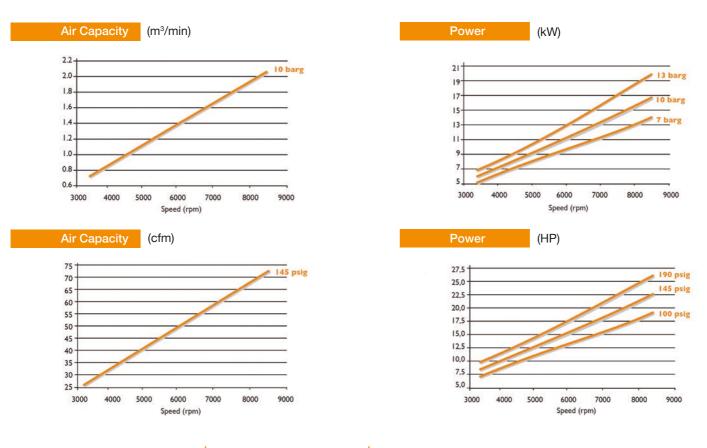
Working pressure: min 3 barg/40 psig - max 13 barg/190 psig Weight: $56\ \mathrm{Kg}$ - $123\ \mathrm{lbs}$

SCI8D

Outside view drawing



Data Tables

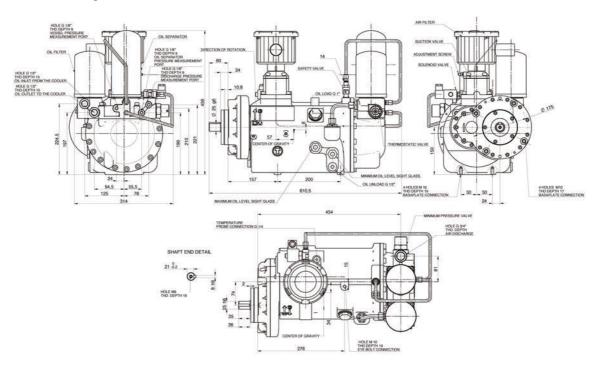


Drive: Male Lobe combination: 5/6 Male rotor size: 74 mm Female rotor size: 61.6 mm L/D: 1.65

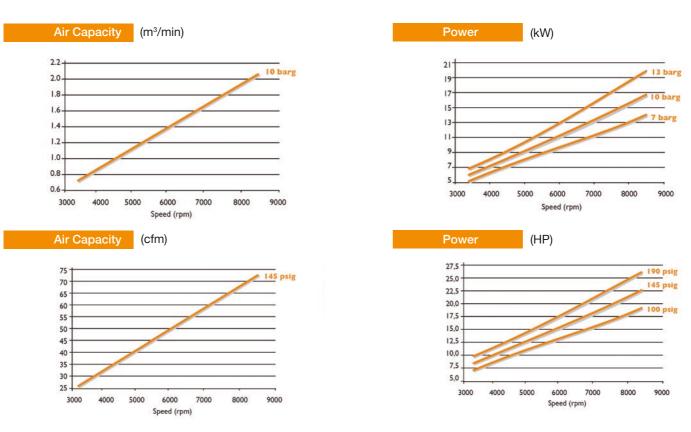
Working pressure: min 3 barg/40 psig - max 13 barg/190 psig Weight: 52 Kg - 115 lbs

SCI8G

Outside view drawing



Data Tables

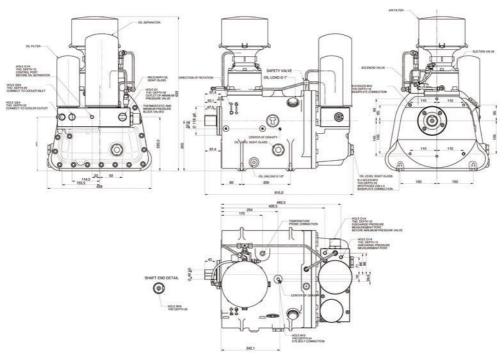


Drive: Male Lobe combination: 5/6 Male rotor size: 74 mm Female rotor size: 61.6 mm L/D: 1.65

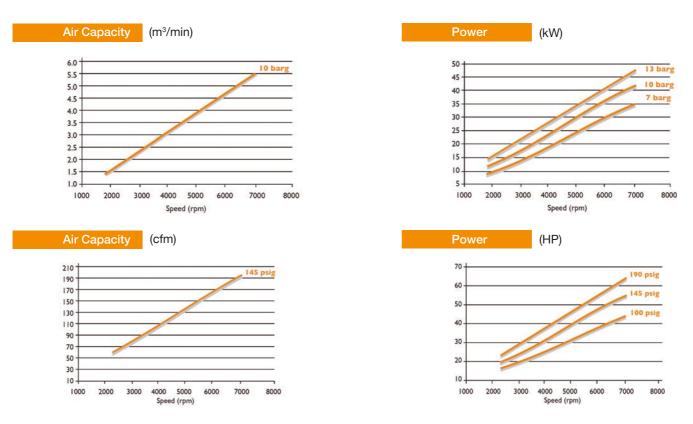
Working pressure: min 3 barg/40 psig - max 13 barg/190 psig Weight: $63 \ \text{Kg}$ - $139 \ \text{lbs}$

SCI10D

Outside view drawing



Data Tables

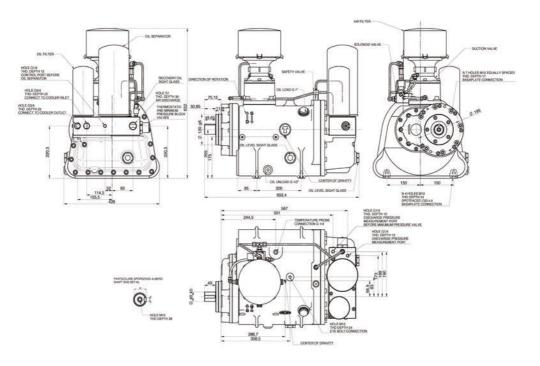


Drive: Male Lobe combination: 5/6 Male rotor size: 108.6 mm Female rotor size: 90.4 mm L/D: 1.56

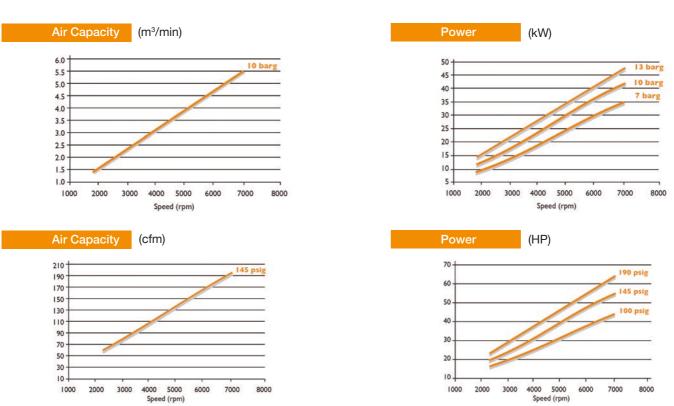
Working pressure: min 3 barg/40 psig - max 13 barg/190 psig Weight: 139 Kg - 306 lbs

SCI10G

Outside view drawing



Data Tables



Drive: Male Lobe combination: 5/6

Male rotor size: 108.6 mm

Female rotor size: 90.4 mm

L/D: 1.56

Working pressure: min 3 barg/40 psig - max 13 barg/190 psig Weight: 153 Kg - 337 lbs

We make your air compression easier



Termomeccanica Industrial Compressors

The Italian specialist in designing and manufacturing bare-shaft screw compressors for air applications

SLC Series

Product features

Main features
Optimised rotor profile 3/5 lobe relation
Discharge pressure up to 2.5 barg
PTFE double lips seal
Low running cost
High volumetric effiency
Integrated oil pump for oil lubrification

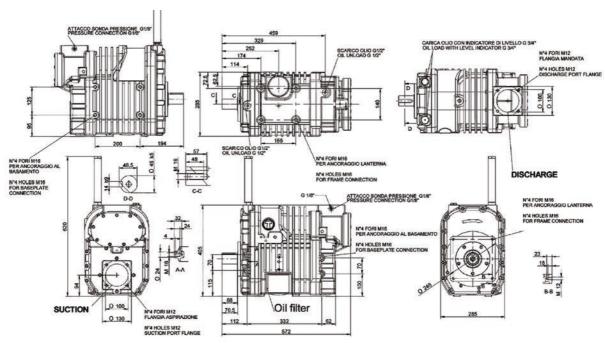
Sizes

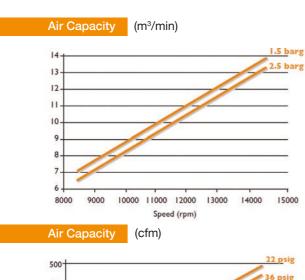
SLC

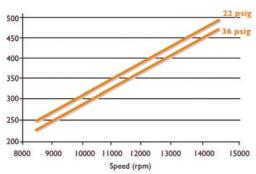
SLC1 - SLC2

SLC1

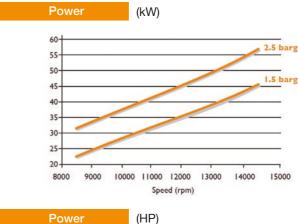
Outside view drawing

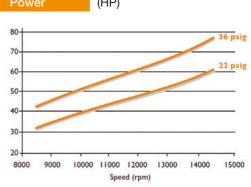






Drive: Female Lobe combination: 3/5 Male rotor size: 111 mm Female rotor size: 111 mm L/D: 1.40

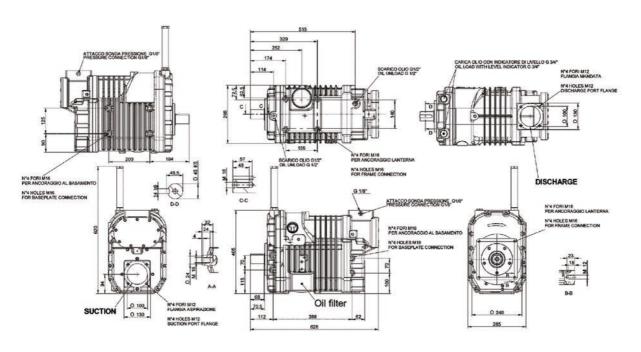




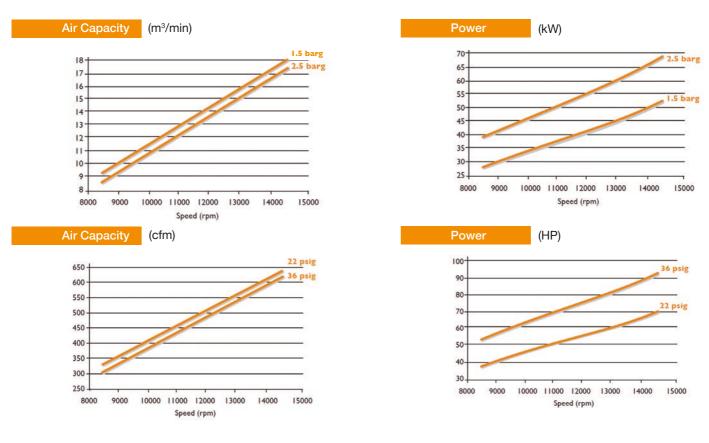
Working pressure: max 2,5 barg Weight: 140 Kg - 308 lbs

SLC2

Outside view drawing



Data Tables



Drive: Female Lobe combination: 3/5 Male rotor size: 111 mm Female rotor size: 111 mm L/D: 1.90

Working pressure: max 2,5 barg Weight: 150 Kg - 330 lbs

TMIC Oil Injected Gas Ends

Products overview



NGSERIES

Capacity range: 0.35 - 45 m³/min Suction pressure: up to 2 bar Max discharge pressure: 20 bar Fixed Vi

Max power: 450 kW

SCGSERIES

Capacity range: 1.2 - 13 m³/min Suction pressure: up to 3.5 bar Max discharge pressure: 24 bar Variable Vi System Max power: 110 kW

INTEGRATED FOR GAS

Capacity range: 0.2 - 5.5 m³/min Suction pressure: up to 2 bar Max discharge pressure: 15 bar Max power: 45 kW



