

# Introducing TURBOVAC i/iX



## **TURBOVAC i / iX**

### **A giant leap in vacuum performance!**

The new TURBOVAC i / iX family—designed to offer best performance especially for light gases. Flexible pump design, electronics and accessories will ensure a perfect fit to your application. The result: a vacuum system operation which is more efficient than ever.

# TURBOVAC i/iX

Discover new dimensions

**cerlikon**  
leybold vacuum



	...a revolution for us	...an evolution for you
<b>Price &amp; Performance</b>	<ul style="list-style-type: none"> <li>▪ Best-in-class pumping performance</li> <li>▪ Best price/performance ratio in the market</li> </ul>	<ul style="list-style-type: none"> <li>✓ Best performance for your money</li> </ul>
<b>Flexible &amp; Fast</b>	<ul style="list-style-type: none"> <li>▪ Tailor-made products for your applications</li> <li>▪ Flexible service concepts</li> <li>▪ Quick response time for new variants</li> </ul>	<ul style="list-style-type: none"> <li>✓ Tailor-made Turn-Key vacuum system solutions to shorten your time to market</li> </ul>
<b>Fit &amp; Forget</b>	<ul style="list-style-type: none"> <li>▪ Superior reliability</li> <li>▪ The only maintenance free hybrid mechanical TMP- no need for oil changes</li> </ul>	<ul style="list-style-type: none"> <li>✓ Highest productivity and system uptime at lowest CoO</li> </ul>
<b>Plug &amp; Play</b>	<ul style="list-style-type: none"> <li>▪ Easiest installation, operation and control</li> </ul>	<ul style="list-style-type: none"> <li>✓ Highest comfort for installation, operation and control</li> </ul>

# TURBOVAC i/iX

## Electronics Control Options



### Standard Front End TURBOVAC i

Cost-efficient  
solution for basic  
function &  
interface

### AnyBus Extension

Flexibility for  
further interface  
options

### Vacuum System Controller TURBOVAC iX

For extended  
functions and  
pump system  
control

### With integrated Power Supply TURBOVAC iPS/iXPS

Fully featured plug  
& play system  
controller

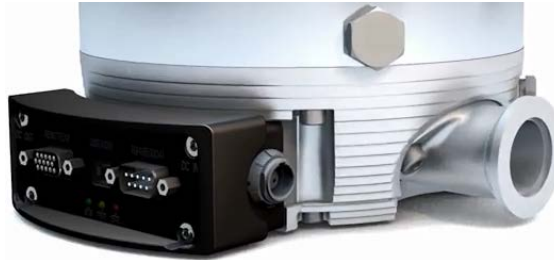
### External Front End

For flexible access  
to interfaces and  
critical installation  
environment

# TURBOVAC 350 i & 450 i

## Product Design Flexibility

### Radial Exhaust Port



### Optional Inter-stage Port

rotatable 90° increments

### Axial Exhaust Port

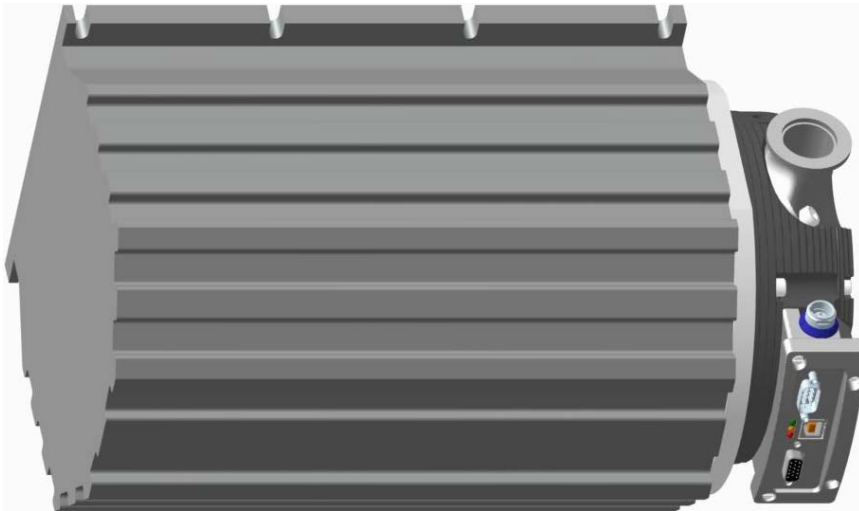


### Direct Exhaust Port Connection/ customer specific

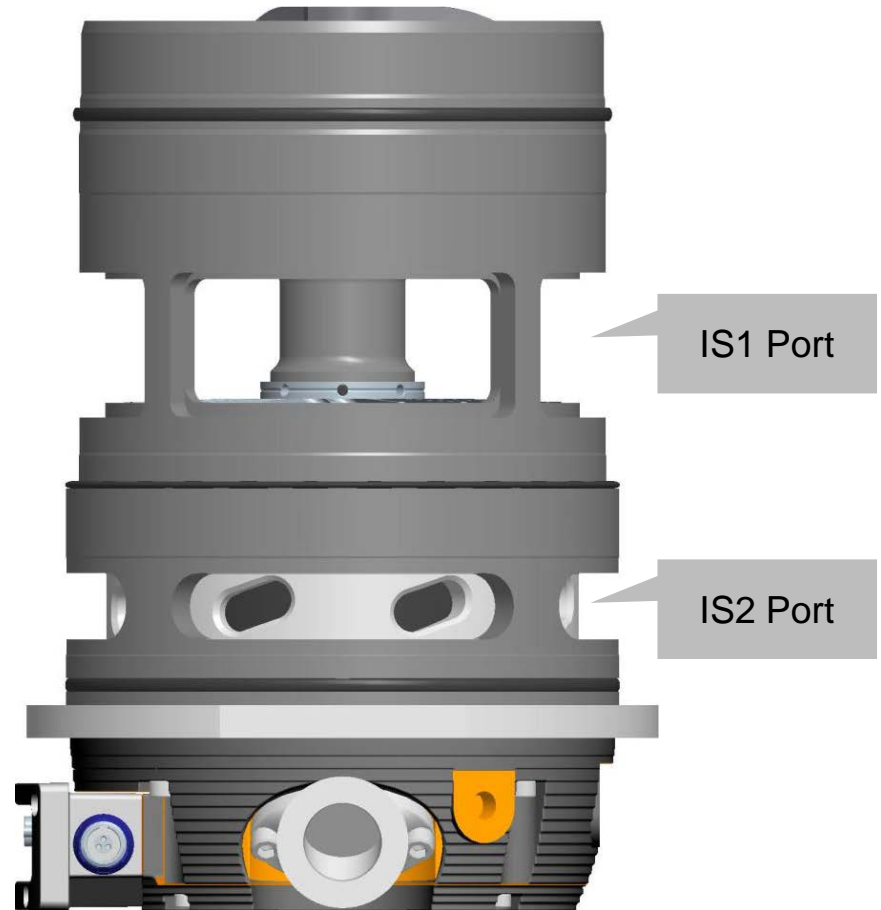


# TURBOVAC 400 i Multiple-Inlet Product Design Flexibility

- High level of flexibility available in terms of height and position of vacuum ports depending on requirements
- Tailor-made Vacuum housing are available,
  - Cartridge
  - Chamber Housing
  - Cartridge plus Chamber Housing
- Multiple inter-stage ports available (Standard configuration is 3 ports)



HV Port



IS1 Port

IS2 Port

# TURBOVAC 350 i & 450 i

## Performance Comparison

		Competitor 1	Competitor 2	Competitor 3	TURBOVAC 350 i
Pumping speed [l/s]	N <sub>2</sub>	260	300	250	290
	He	255	340	255	360
	H <sub>2</sub>	220	280	220	350
Max compression	He	1x10 <sup>8</sup>	3x10 <sup>6</sup>	1x10 <sup>8</sup>	1x10 <sup>8</sup>
	H <sub>2</sub>	9x10 <sup>5</sup>	1x10 <sup>5</sup>	1,5x10 <sup>6</sup>	1x10 <sup>6</sup>



		Competitor 2	TURBOVAC 450 i
Pumping speed [l/s]	N <sub>2</sub>	400	430
	He	390	440
	H <sub>2</sub>	325	420
Max compression	He	1x10 <sup>8</sup>	1x10 <sup>8</sup>
	H <sub>2</sub>	1x10 <sup>6</sup>	1x10 <sup>6</sup>



### World Class Compression

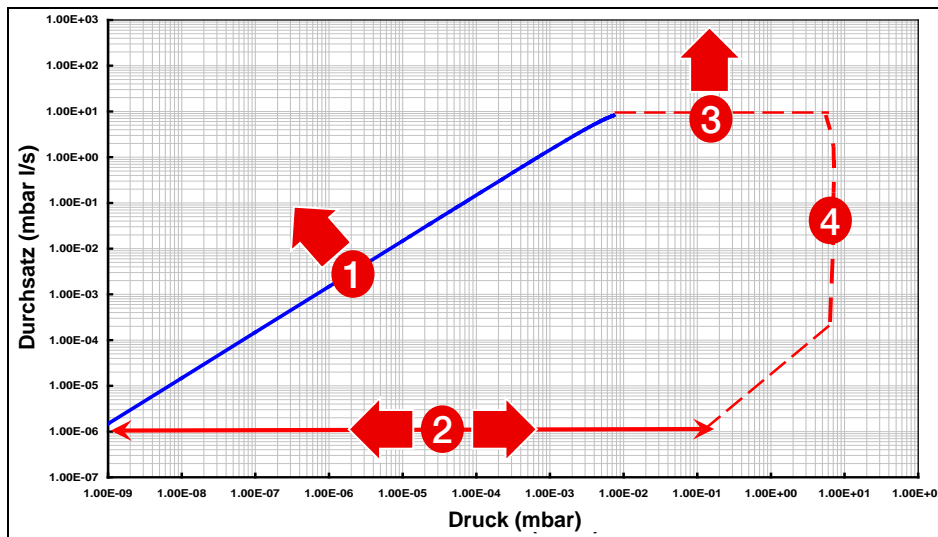
- Equivalent market leading compression.
- 100X more compression than previous generation products.

### World Class Pumping Speed

- Up to 30% better than current benchmark.
- Double the light gas performance of previous generation products.

# Benefits of Extra Pumping Performance

- 1 Increased Pumping Speed gives,**
  - Higher gas flows at the same chamber pressures
  - Lower chamber pressures at the same gas flows
- 2 Increased Compression gives,**
  - Lower chamber pressures
  - Increased exhaust pressure without effecting inlet pressure (Only a benefit at very low gas flows)
- 3 Increased Maximum Gas Flow gives,**
  - Higher maximum allowable gas flow rates
- 4 Increased Backing Pressure gives,**
  - Smaller size roughing pumps possible
  - → cost and footprint reduction





# Product Flexibility

- The pumping mechanism can be easily configured to give a wide range of pumping performance characteristics.
- The results is a tailor made performance per application.
- Benefits are lower operating temperatures and power dissipation, higher gas throughput and a more reliable product.

