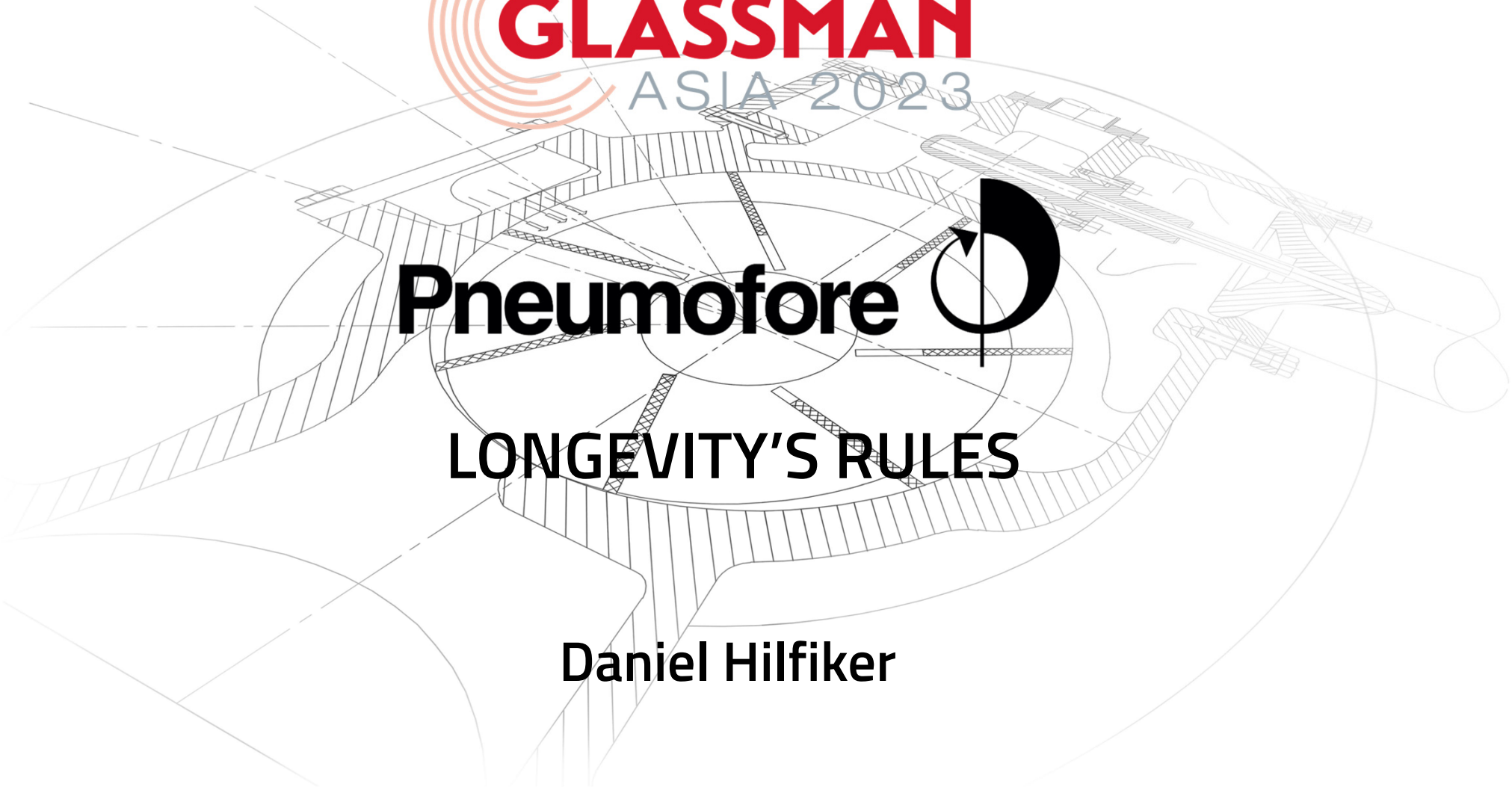
GLASSMAN
ASIA 2023



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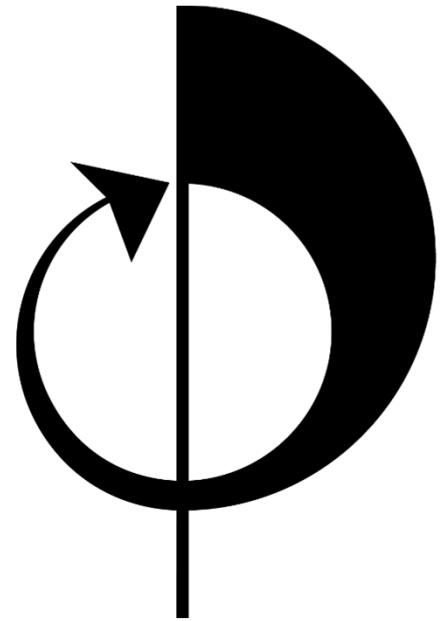
LONGEVITY'S RULES

Daniel Hilfiker



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100 Years
1923-2023

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ROTARY VANE TECHNOLOGY

A SERIES AIR COMPRESSORS

UV SERIES VACUUM PUMPS

SINCE 1923

SWISS ENGINEERING

ITALIAN DESIGN

GLOBAL PRESENCE

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WORLD REFERENCES

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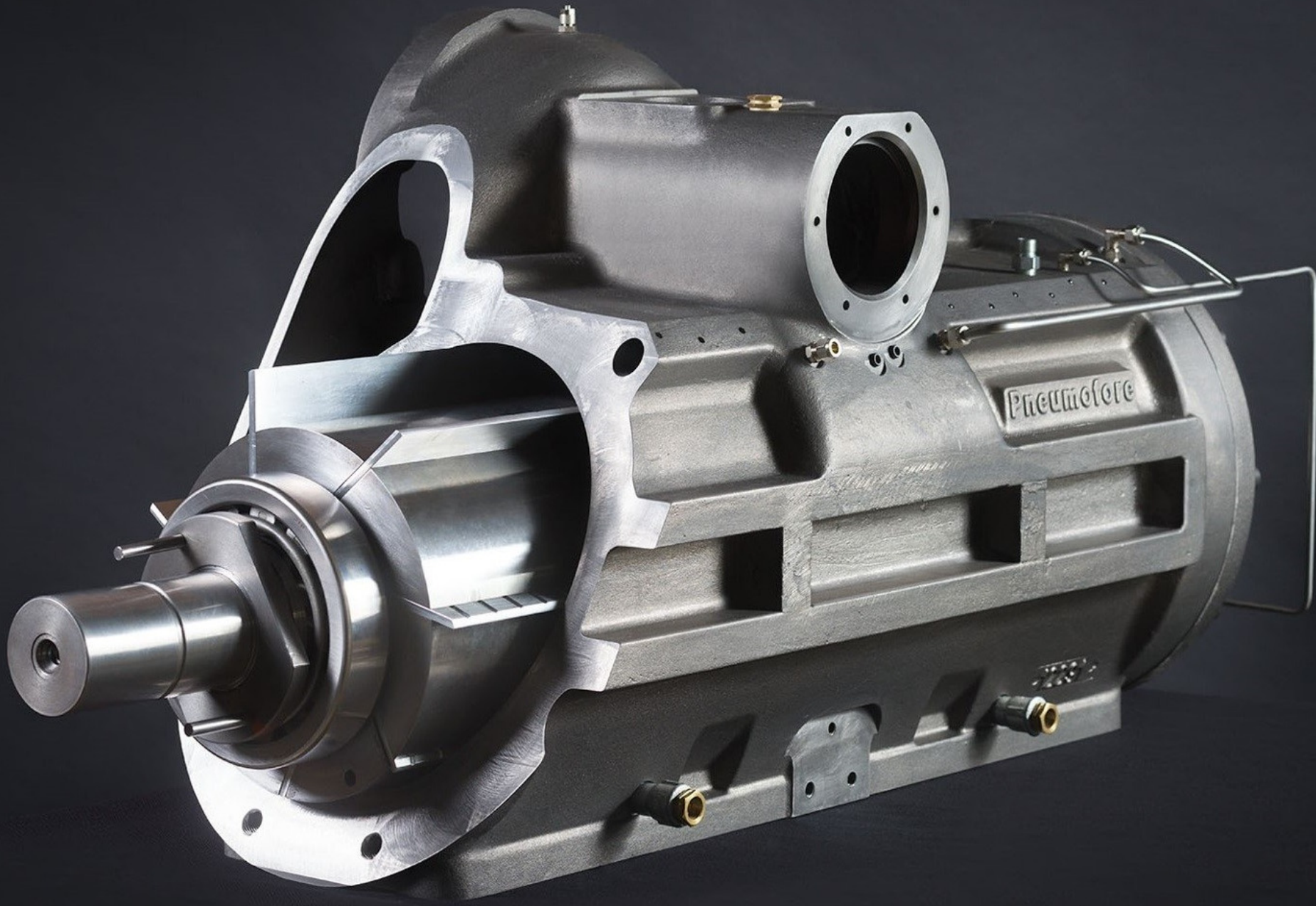
GLASS INDUSTRY REFERENCES - EXTRACT

GLASSMAN ASIA 2023

TAILORED SOLUTIONS

FOR VACUUM SYSTEMS AND COMPRESSORS

MEXICO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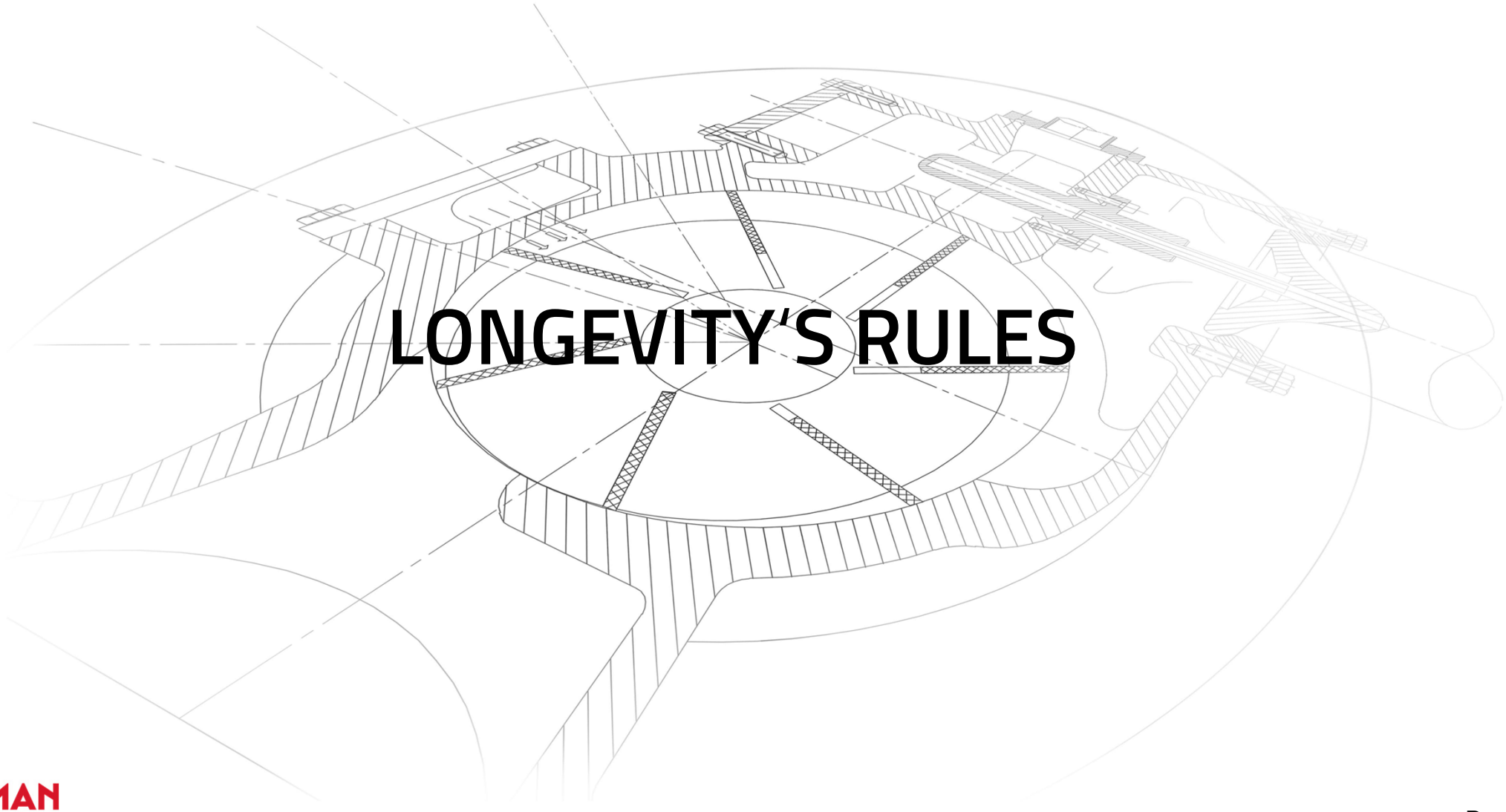

LONGEVITY'S RULES

GLASSMAN ASIA 2023

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PLANNED OBSOLESCENCE

The widespread ‘Planned Obsolescence’ approach to equipment design offers:

- Life Cycle of 3 to 6 years maximum;
- Irreparable products;
- Disposable equipment;
- High service costs;
- A strategy to generate long-term sales and after-sales volumes.

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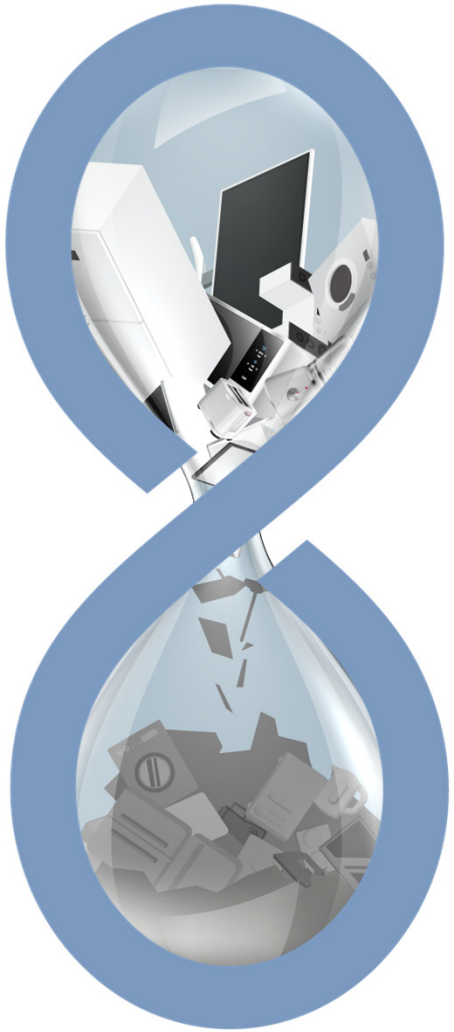
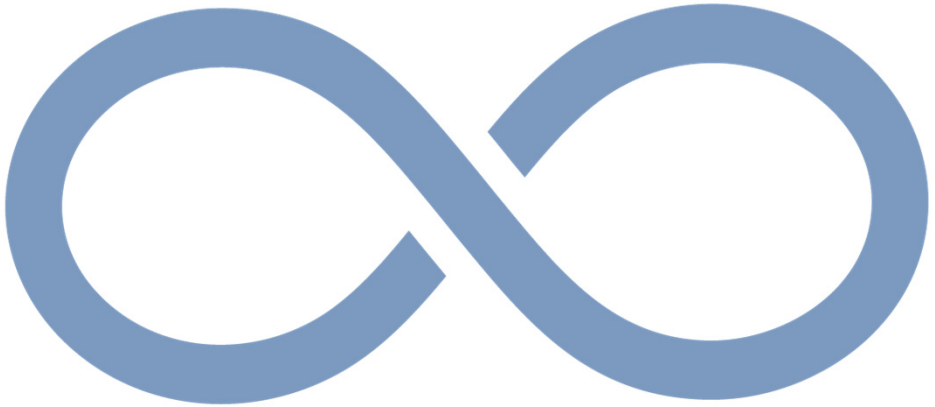
A PARADIGM SHIFT TOWARDS LONGEVITY





REVERT THE STRATEGY
TO BUILD-TO-LAST DESIGN
AND DURABILITY OVER-TIME

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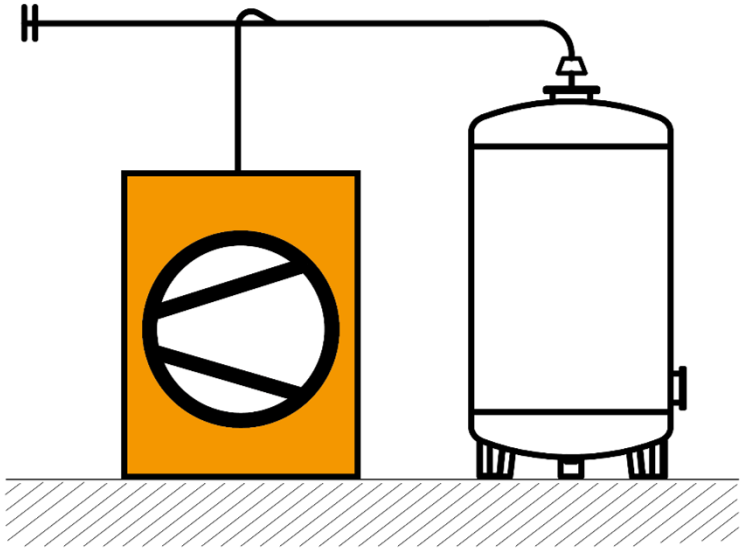
TOTAL COST OF OWNERSHIP

KEY FACTORS

CAPEX



MAINTENANCE

ENERGY

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COST OF A 250 kW AIR COMPRESSOR

considering capex and electricity only (early 2023 rates)

PURCHASING

Typical Capex: 110.000 €

ENERGY

Typical electricity cost: 0,12 € / kWh
Cost per hour: 250 kW @ 0,12 € / kWh = 30 €/h
Average working hours per year: 8.760 h
Cost per year: 8.760 h * 30 € = 262.800 €/year

15-YEAR COMPARISON

CAPEX	110.000 €
ELECTRICITY COST	3.942.000 €

36 TIMES MORE !

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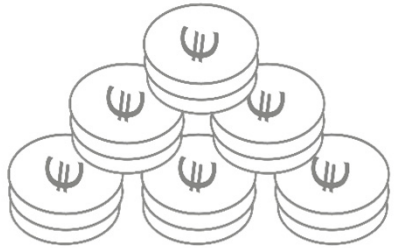
CAPEX vs OTHER FACTORS

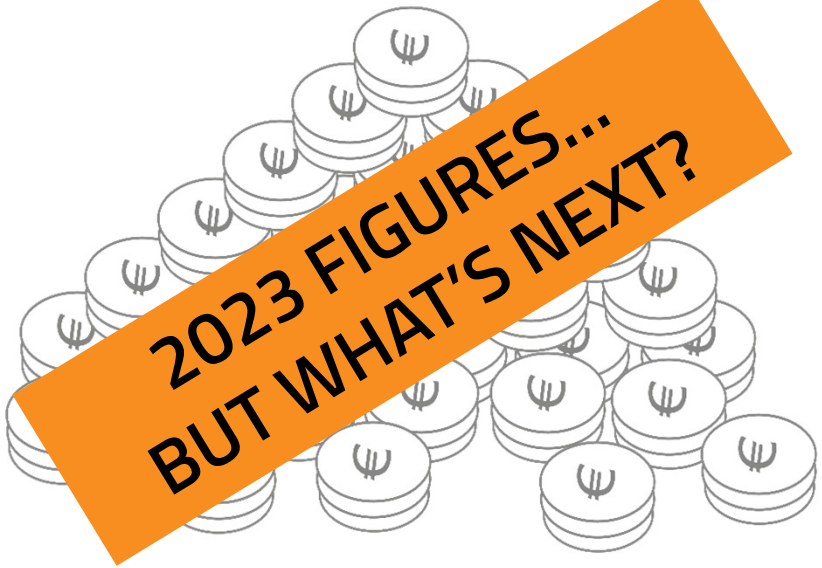
IN A 15 YEAR ANALYSIS

CAPEX

MAINTENANCE

ENERGY





x 36 !

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CLEAR MAINTENANCE PLAN

Years	Working Hours	Ordinary Maintenance	Periodic Maintenance	Annual Kit Price* (Euro)	Manpower (Hours)
1	8.000	@ 6.000	NO	3458	4
2	16.000	@ 12.000	NO	3458	4
3	24.000	@ 18.000 @ 24.000	@ 24.000	7727	11
4	32.000	@ 30.000	NO	3458	4
5	40.000	@ 36.000	NO	3458	4
6	48.000	@ 42.000 @ 48.000	@ 48.000	7727	11
7	56.000	@ 54.000	NO	3458	4
8	64.000	@ 60.000	NO	3458	4
9	72.000	@ 66.000 @ 72.000	@ 72.000	7727	11
10	80.000	@ 78.000	NO	3458	4
			TOTAL	**47387**	**61**

10 year service plan for a Pneumofore UV50 vacuum pump
* 2023 pricelist

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CAPEX vs HIDDEN COSTS

MACHINE CAPEX

ELECTRICAL POWER
HANDLING
TRASPORTATION
ACCESSORIES
IMPORT FEES
INQUIRY RELATED COSTS
PIPING DESIGN
TRAINING
INSTALLATION
LABOUR COSTS
UNPREDICTABILITIES
EVALUATION TIME
RISKS

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THE IMPORTANCE OF LONGEVITY

Longevity rules because:

- It avoids the waste of money spent in buying equipment over and over;
- You can focus on other priorities than fixing auxiliary equipment;
- It contrasts the Planned Obsolescence strategy, which is made to fulfill the revenue's goals of others companies, not yours;
- It is a key factor in making a contribution to the environment.

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LONGEVITY'S RULES

Designing rules that maximize longevity:

- Simple and sturdy design, without too many components;
- Ease-of-access and -maintenance
- Components must be easily replaceable or fixed;
- Over-dimensioned components (like motor and filters);
- Availability of spare parts (Total OEM independency).

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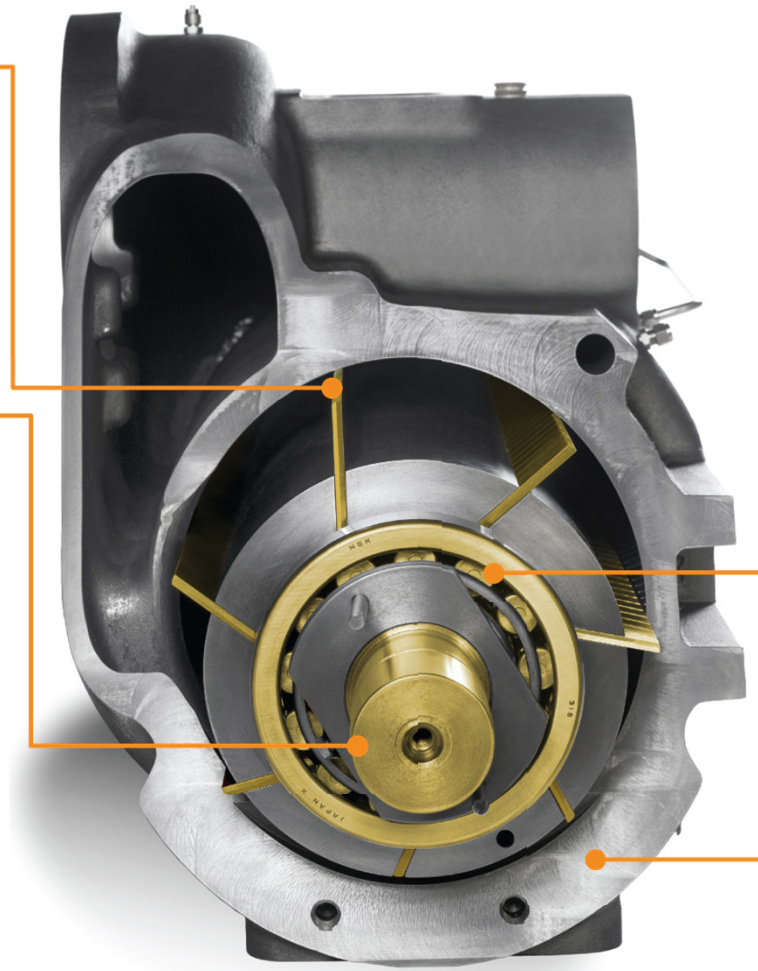
WHY ROTARY VANE

THE VANES

non-consumable parts

DIRECT DRIVE

no transmission loss
low running speed
[900 -1880 rpm]



ONLY 2 BEARINGS

120.000 h of operation

NO OVERHAULING

constant efficiency
extended warranty

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WHY ROTARY VANE

THE VANES

non-consumable parts

ONLY 2 BEARINGS

120 000 h of operation

ACTIVE SEALING

DIRECT DRIVE

no transmission loss
low running speed
[900 -1880 rpm]

O OVERHAULING

constant efficiency
extended warranty

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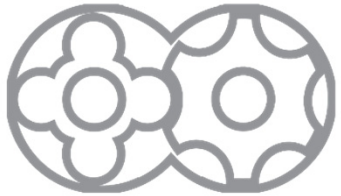
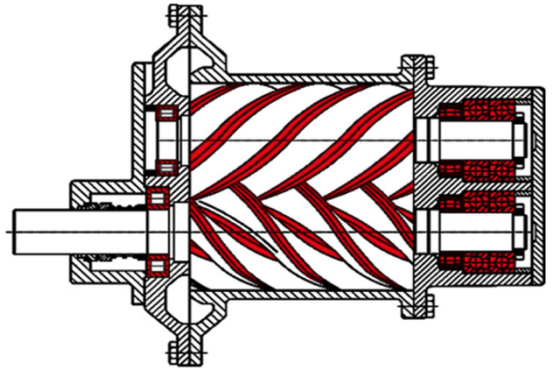
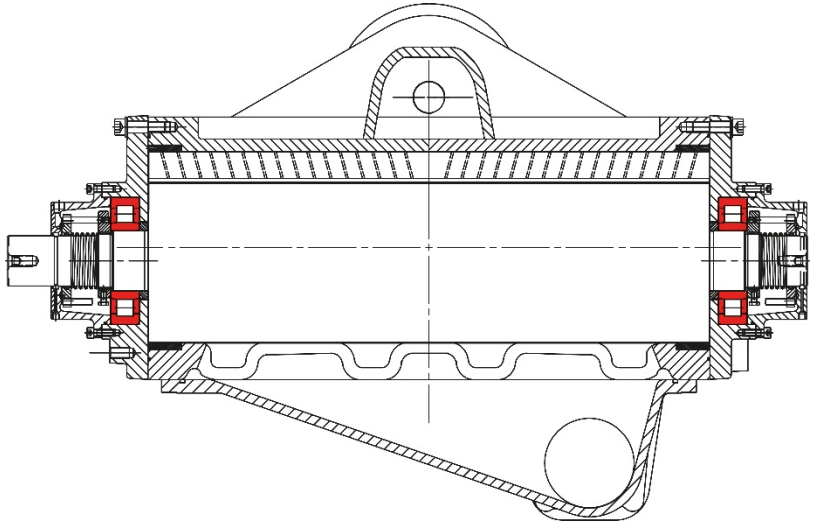
EFFICIENCY OVER TIME

Efficiency is affected over time by:

- The increased tolerance of bearings;
- Gearboxes or belts;
- Service factor of electrical motor.







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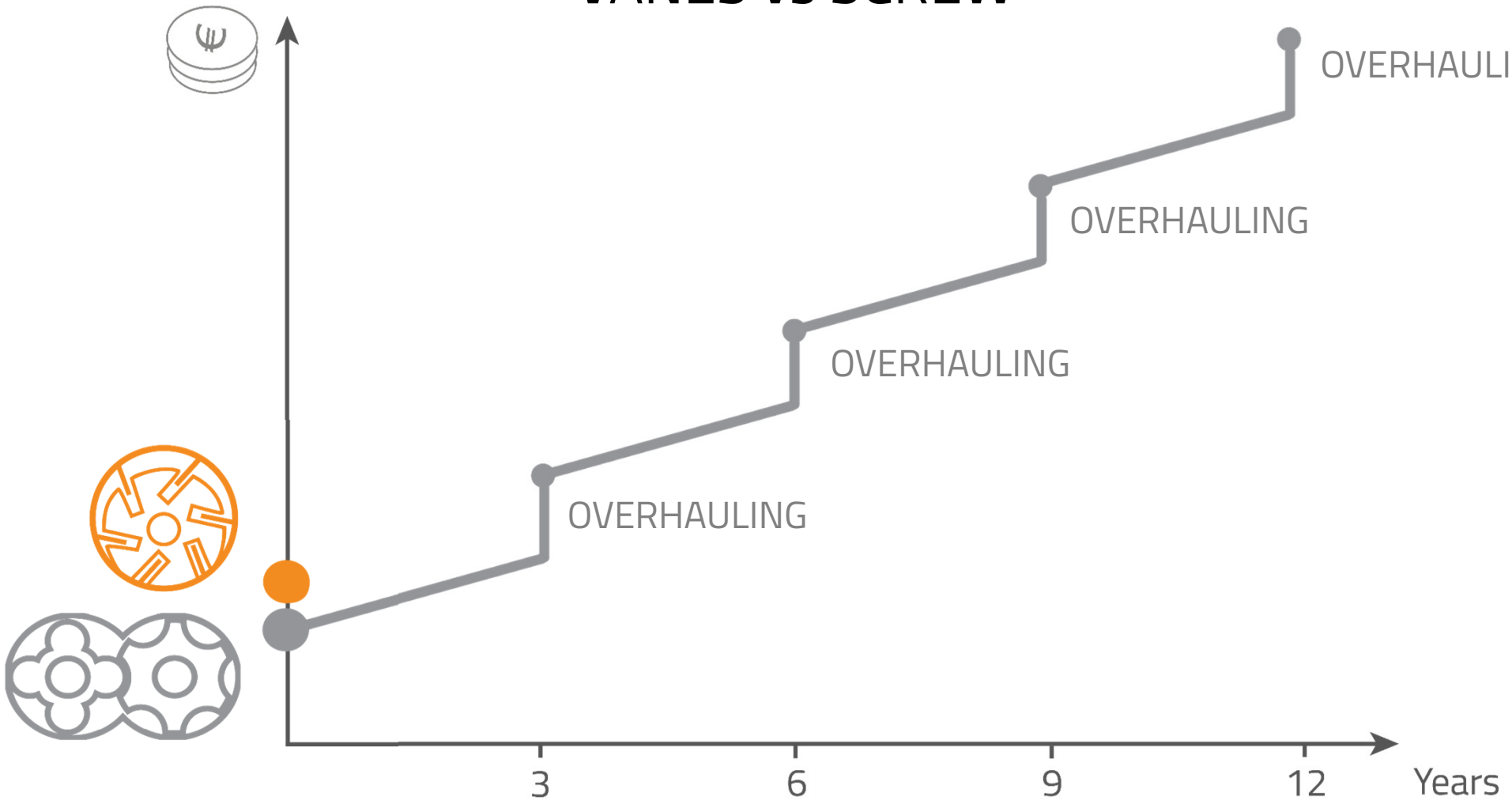
CAPEX + ENERGY + MAINTENANCE

VANES vs SCREW



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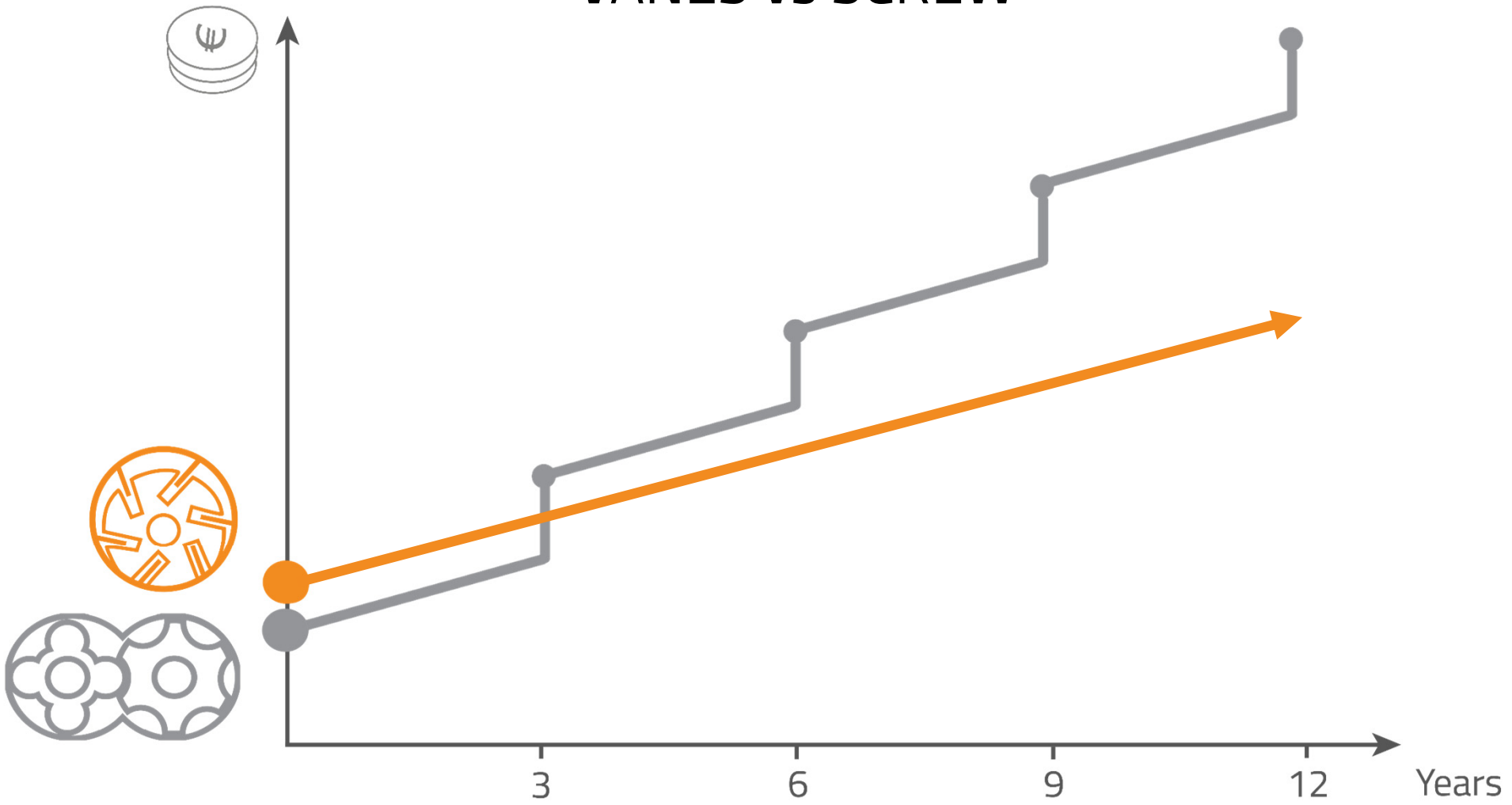
CAPEX + ENERGY + MAINTENANCE

VANES vs SCREW



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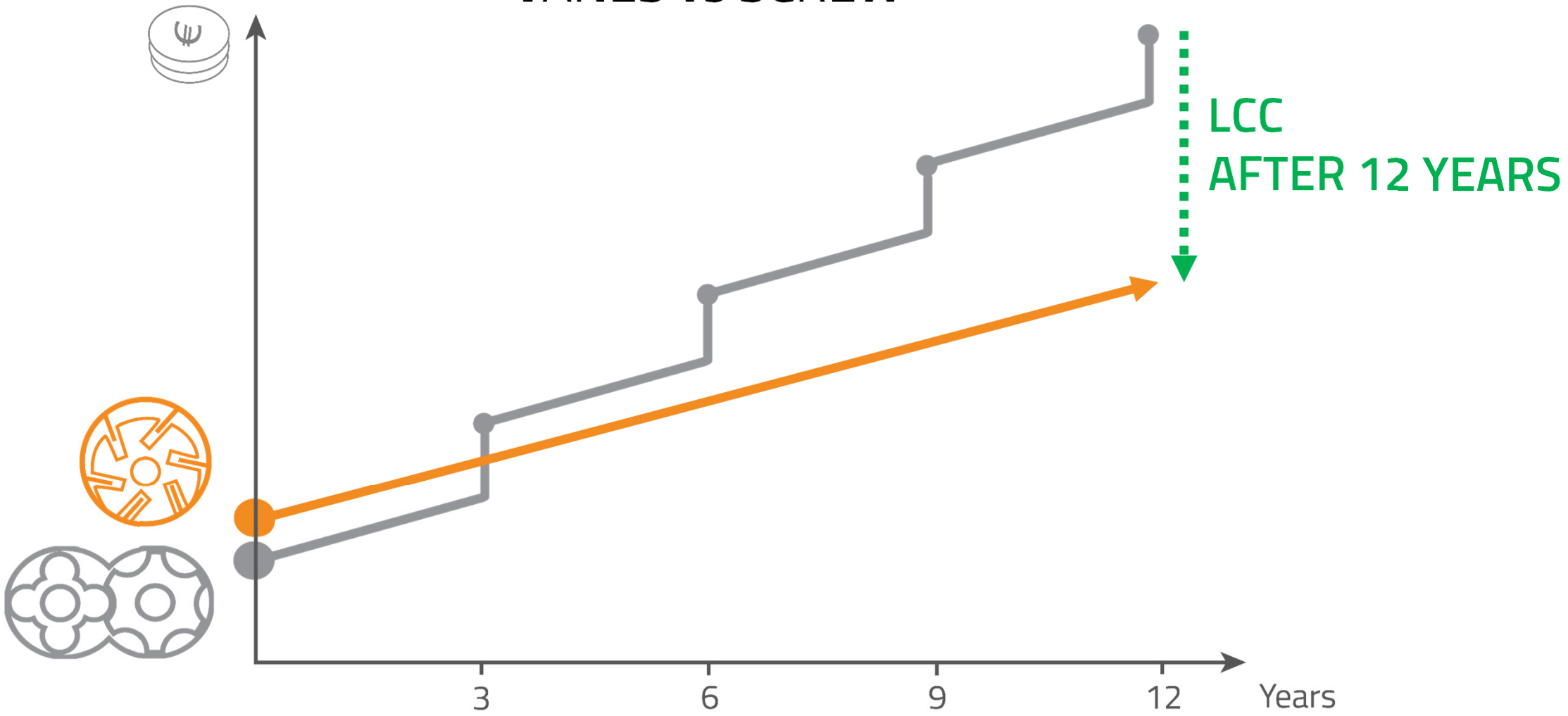
CAPEX + ENERGY + MAINTENANCE

VANES vs SCREW



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LONGEVITY'S RULES

More healthy "dietary" practices for maximum life expectancy:

- Regular maintenance;
- Using appropriate spare parts;
- Regular visual checks;
- Cleaning of the radiators and electrical cabinet;
- Fresh, cool and clean air: choose shaded and ventilated areas to install the units and keep low the level of air pollution;
- Give space around the inlet in order to avoid depression that could affect the pump efficiency;
- Perform regular preventive check-ups.

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CONCLUSIONS

- Ask for the Extended Warranty
- Ask for a Total Cost Analysis over 10 Years
- Avoid Planned Obsolescent Equipment
- What Doesn’t Exist Doesn’t Break
- Make a Forward-Looking Management Choice:
  Buy it Only Once, Install it and Forget it

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100 Years 1923-2023

LONGEVITY'S RULES

Thank you for your attention !

Daniel Hilfiker