



ENGINEERING  
TOMORROW

**Reverse**  
the trend  
towards  
complexity

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## Engineering that drives simplicity, efficiency and profit

Danfoss has the industry taking a fresh look at hydraulic systems with breakthrough technologies and ingenious engineering like those incorporated into the Danfoss Reverse Displacement Motor (RDM) for use in a fan application.

By eliminating the directional control valve and integrating the shift valve into the motor, Danfoss has engineered an innovative and improved solution. These advancements trigger a series of cost-savings and efficiencies that prove less complexity can mean more performance and profit.

Our objective is always to improve performance while simplifying the machine. When less is more, remarkable things can happen.

# Simple

is powerful

When used in a fan application, the Danfoss RDM defies convention by:

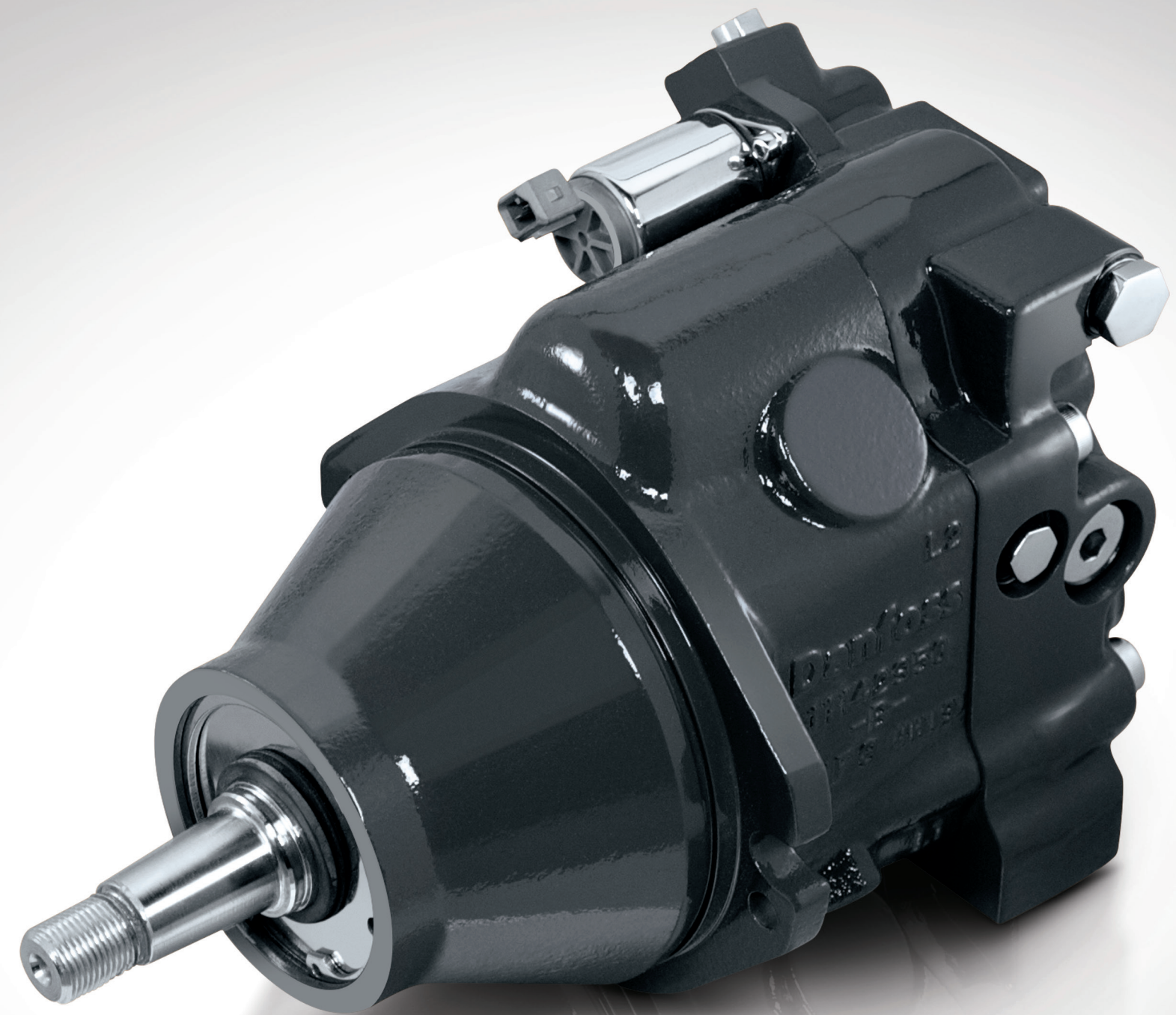
**Simplifying** the HIC block and eliminating the directional control valve

**Using fewer components** such as hoses and valves in your hydraulic circuit

**Freeing space** in the engine compartment creating opportunities for innovation

**Eliminating the heat** generated by traditional reversing systems

**Drawing less power**, leaving more power for work function



Tap into the power of simplicity with the Danfoss RDM

Give your engineers

# space

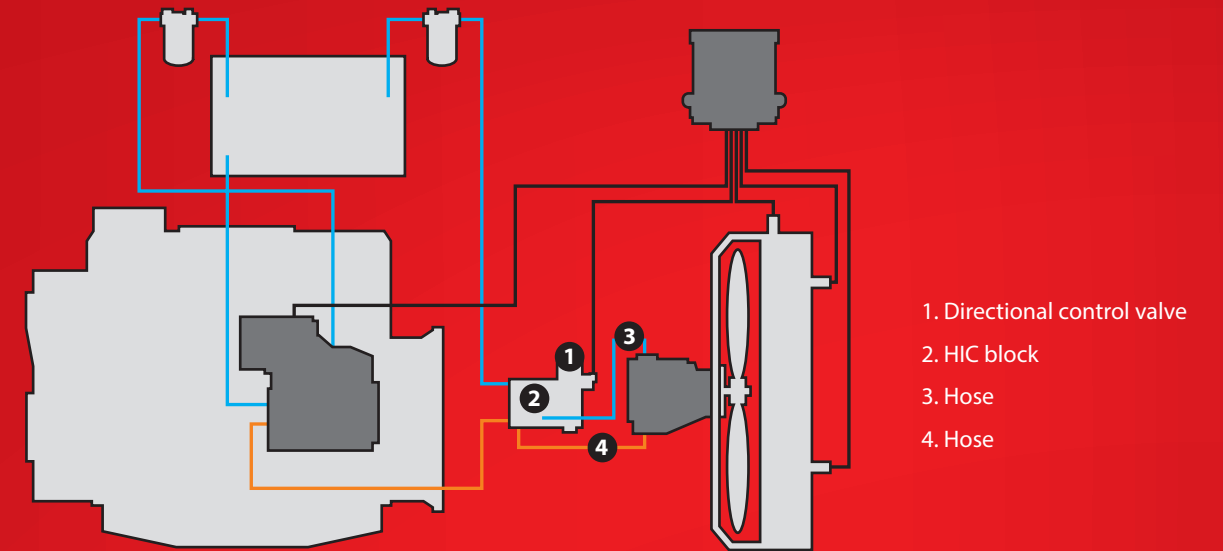
to roam

By eliminating the directional control valve and integrating the shift valve, the Danfoss RDM reduces system design variables and opens up essential space for more innovative use.

Fewer components, a simplified or even eliminated HIC block, and a space-saving motor design reduce assembly time and component costs — and frees up more of the engine compartment for other uses.

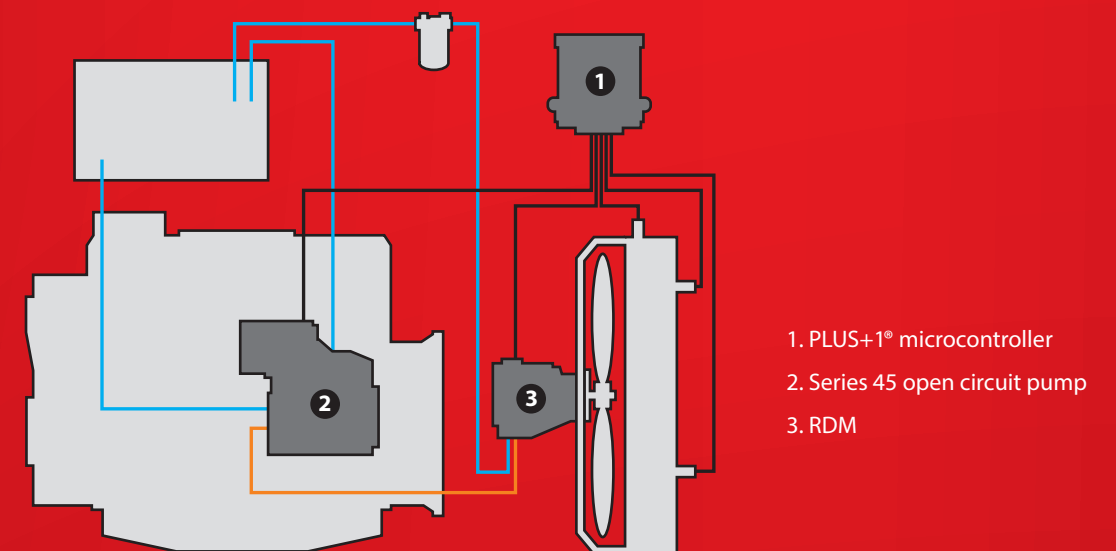
A.

Traditional hydraulic fan drive system



B.

Danfoss solution with directional control valve removed and integrated shift valve



Efficiency and space savings create engineering opportunities





Operators will feel the  
**power**

Reduce power  
consumption by

**10%**

The Danfoss RDM eliminates the heat generated by traditional fan reversing systems, reducing power consumption by up to 10 percent. This power savings translates into improved machine performance operators will feel.

Imagine more power suddenly free for other uses. You're probably already thinking of the possibilities.

More power, in all the right places



Up to  
**8%**  
fuel savings  
per machine,  
per year

When it comes to doing more with less, the Danfoss RDM delivers. Using the RDM to simplify your hydraulic system can decrease fan drive system costs by up to 15% while increasing reliability and machine performance. This results in lower overall system and fuel costs.

Built on years of proven motor technology, the Danfoss RDM is engineered to be durable and dependable even in the most rugged and demanding applications.



Reduce components to increase  
**performance**

Performance and efficiency are not mutually exclusive





# Efficiency

means fewer costs

**15%**

average reduction  
in total systems cost

Fewer hydraulic system components means less assembly time — and common platforms across all displacements add efficiencies and subtract the cost of different tools, assembly processes, and test methods.

To top it all off, our simple, reliable design helps reduce your aftermarket support costs, and the PLUS+1® compliance allows for seamless integration into existing systems.

What does this all mean for you?  
Faster time to market.

Savings that make a difference



We're committed to technology that advances your business. When incorporated into a fan drive system that includes a Series 45 open circuit pump and PLUS+1 microcontroller, the Danfoss RDM has been proven to deliver increased performance and decreased fuel consumption. And by removing and simplifying components, you can receive potential savings in assembly and component costs of up to 15%.

Plus, Danfoss provides the added value of a seamless customer experience. You'll work with a dedicated team of customer service reps and engineers who deliver durable, high-quality systems right on schedule.



# Commitment

One customer experience at a time



RDM features and benefits



**FEATURE:**  
Five displacements allow for optimum selection

**BENEFIT:**  
Correct size motor for your specific application



**FEATURE:**  
Built on proven Danfoss L and K motor technology

**BENEFIT:**  
Proven quality



**FEATURE:**  
Efficient, nine piston rotating groups with 18° maximum angle

**BENEFIT:**  
Proven technology for system stability



**FEATURE:**  
Dust seal protector for shaft and anti-cavitation valve

**BENEFIT:**  
Increased durability and machine uptime



**FEATURE:**  
PLUS+1 compliant

**BENEFIT:**  
Complete machine integration and faster time to market



**FEATURE:**  
Fail-safe functionality defaults to maximum forward speed if control signal is lost

**BENEFIT:**  
Improves machine safety and protects engine from costly damage

Valve innovation for increased performance and profit



By eliminating the directional control valve and integrating the shift valve into the motor, Danfoss has engineered a solution that triggers a series of cost-saving and efficiency-boosting advances — all of which prove less complexity can lead to more performance and profit for you and your customers.

RDM technical specifications

Physical properties

Parameter	Unit	LM25	LM30	LM35	KM38	KM45
Displacement (max.)	cm <sup>3</sup> [in <sup>3</sup> ]	25 [1.50]	30 [1.83]	35 [2.14]	38 [2.32]	45 [2.75]
Weight	kg [lb]	17.5 [38.6]				
Theoretical torque	N•m/bar [lbf•in /1000psi]	0.40 [244]	0.48 [293]	0.56 [347]	0.60 [366]	0.72 [439]

Operating parameters

Output Speed (at max. disp.)	Rated	min <sup>-1</sup> (rpm)	3400	3500	3600	3600	3500
	Maximum		3950	4150	4300	4000	3900
System pressure <sup>(1)</sup>	Maximum	bar [psi]	350 [5075]	350 [5075]	325 [4715]	350 [5075]	350 [5075]
Case pressure	Rated	bar [psi]	0.5 [7] above outlet pressure, 2 [29] absolute pressure				
	Maximum		2 [29] above outlet pressure, 6 [87] absolute pressure				

<sup>(1)</sup> Refer to L and K Frame Variable Motors Technical Information 520L0627 for pressure definitions

Electrical parameters

Voltage		Vdc	12, 24 Vdc
Current	12 Vdc	mA	1500
	24 Vdc		750
Connector		—	Deutsch Connector DT04-2P





Let us prove it to **you.**

Danfoss is committed to engineering tomorrow by combining the latest innovations with the reliability you deserve. Partner with Danfoss today, and receive the application specific knowledge and expertise you need from our dedicated engineering team.

Learn more at [powersolutions.danfoss.com](http://powersolutions.danfoss.com)