



Keeping contamination under control.®

Des-Case Corporation

Pioneers in contamination control.

Why do the world's leading companies, distributors, and OEMs look to Des-Case? Because we understand the importance of fluid cleanliness and the role it plays in increased production, cost savings, and reliability. We've spent more than 25 years pioneering solutions specific to customer needs, helping improve lubricant quality, and maximising equipment dependability.

Our comprehensive water and particulate contamination control products are used by hundreds of the world's top companies for a wide range of applications including gearboxes, hydraulic and lube oil reservoirs, and storage/ process tanks.

From the time oil enters your facility to the end of its life, protecting it with Des-Case solutions will extend the life of your machinery and decrease your downtime, leading to huge cost savings. Our innovative contamination control technology consists of rugged, high quality materials that are cost effective for nearly every application. An imperative link in the reliability chain, Des-Case helps you effectively control contamination before it controls you.



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for contamination control products

Des-Case breathers are state-of-the-art in design and function, and are industry's best choice for assuring maximum machine performance.

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Des-Case offers a full line of adaptable contamination control products.

Make us your definitive solution.

the first line of defense against contamination



Desiccant breathers are a vital step in contamination control. Studies have shown 50 to 70 percent of lubricant contamination can come from outside the equipment. As most machines are designed to "breathe," protecting the source of air-flow from moisture and particulate contamination is extremely valuable for front-end protection and reliability optimisation.

Des-Case desiccant breathers incorporate a high capture-efficiency filter to help sustain desired cleanliness levels by removing even minute particulate matter. They also create low relative humidity levels in the headspace, making condensation and absorption by the lubricant unlikely. When a system is properly fitted with a breather containing drying and filtration media, the contaminant ingression is greatly reduced.

Installation of Des-Case[®] *breathers at critical ingression points is a cost-effective means to prevent contaminants from entering the fluid reservoirs as differential pressures occur.*

Reverse flow through the breather allows for regeneration of the desiccant and prevents oil vapours from entering the work environment.

Benefits

Environment

1 million	Foam pad disperses air evenly over filter media and silica gel.	Intermittent operations
() ()	Patented polyester filter captures particles at 3 micron absolute (β_3 >200).	Gearboxes
	Colour-changing silica gel desiccant removes moisture from incoming air, extending fluid and system life.	Hydraulic reservoirs Transformers
Dianaaahla	Air intake plug ring allows for controlled breathing and easy activation of the unit without tools.	Storage Tanks Drums
Disposable Desiccant Breathers	Different sizes allow for adaptation to virtually any system.	
	Quad check valves provide a slight system pressurisation, protecting system integrity.	Thermal expansion / contraction only
	Patented polyester filter captures particles at 3 micron absolute (β_3 >200).	Gearboxes
	Expansion chamber creates a nearly sealed system.	Washdown applications
	Colour-changing silica gel removes water from incoming air, extending fluid and system life.	Closed loop systems Bearing houses
Hydróguard	Foam pad stops oil mist during exhalation and disperses air evenly over filter media and silica gel.	Pumps and other low-flow applications
VentGuard	VentGuard offers similar benefits to the Hydroguard, but smaller footprint.	
	Pleated filter element captures particles at 0.3 micron absolute $(\beta_{0.3} > 1000)$.	Low humidity applications Arid, high dust environments
Jose L	Oil-coalescing media (TriplePlay only) drains oil back to system, prevents contamination of work environment.	Continuous operations with frequent washdowns
	Optional vacuum indicator actuates when maximum restriction is reached, protects system integrity.	Applications that create "oil misting"
DOUBLE () PLAY	Hydrophobic media repels free water, yet permits humid air to escape.	
	Automotive-grade molded housing for increased vibration resistance	Harsh environments
Chan	Filter captures particles at 0.3 micron absolute ($\beta_{0.3}$ > 200).	High temperature
	Water-blocking filter media prevents free water from entering breather	Mobile equipment
	Dual clear windows for easy system monitoring	Nautical applications
	Colour-changing silica gel changes from blue to pink when breather needs replacing	High vibration
Extreme Duty Breathers	Check valve system extends product life even further	

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Disposable Standard Breathers

simple, dependable lubricant protection



- Resilient clear polycarbonate body
- · Bi-directional, controlled airflow
- Multi-tiered filtration process
- Water vapour adsorbent
- 3-micron absolute particulate filter elements
- Colour indicator for easy system monitoring

Model Number	DC-2	DC-3	DC-4
Unit Height	155.6 mm	206.4 mm	257.2 mm
Unit Diameter	101.6 mm	101.6 mm	101.6 mm
Shipping Weight (unit/case)	0.55 kg / 3.51 kg	0.85 kg / 5.32 kg	1.2 kg / 7.33 kg
Amount of Silica Gel	0.30 kg	0.56 kg	0.84 kg
Adsorption Capacity	118.2 mL	220.3 mL 333 mL	
Max. Flow Rate (cfm)	16 @ 1 PSID	16 @ 1 PSID	16 @ 1 PSID
(lpm)	453	453	453
Filtration	3μ absolute ($\beta_3 > 200$)	3μ absolute ($\beta_3 > 200$)	3μ absolute ($\beta_3 > 200$)
Operating Temp. Range	-29°C to 93°C	-29°C to 93°C	-29°C to 93°C
Hydrophilic Agent	Silica Gel	Silica Gel	Silica Gel
Filter Media	Polyester	Polyester	Polyester
Connection Size	1" threaded	1" threaded	1" threaded



Miniature Disposable Breathers

diminutive design for confined areas



Model Number	DC-BB	DC-1	
Unit Height	99.06 mm	134.9 mm	
Unit Diameter	64.01 mm	64.01 mm	
Shipping Weight (unit/case)	0.14 kg / 0.97 kg	0.23 kg / 1.51 kg	
Amount of Silica Gel	58.6 g	125.3 g	
Adsorption Capacity	23.3 mL	49.7 mL	
Max. Flow Rate (cfm)	4.55 @ 1 PSID	4.16 @ 1 PSID	
(Ipm)	128.84	117.8	
Filtration	3μ absolute (β_3 >200)	3μ absolute ($\beta_3 > 200$)	
Operating Temp. Range	-29°C to 93°C	-29°C to 93°C	
Hydrophilic Agent	Silica Gel	Silica Gel	
Filter Media	Polyester	Polyester	
Connection Size (NPT)	3/8" (NPT)	3/8" (NPT)	

Non-desiccant Disposable Breathers

- Creates an impenetrable barrier against water droplets
- Pleated element provides a large surface area and filters at 0.3μ absolute $(\beta_{0.3} > 1000)$
- Oil coalescing layer (DC-SB-35)



Model Number		DC-SB-25	DC-SB-35
Unit Height		127 mm	127 mm
Unit Diameter		127 mm	127 mm
Shipping Weight (unit/case)		0.45 kg / 1.38 kg	0.45 kg / 1.38 kg
Amount of Silica Gel		n/a	n/a
Adsorption Capacity		n/a	n/a
Max. Flow Rate	(cfm)	40 @ 1 PSID	40 @ 1 PSID
	(Ipm)	1132	1132
Filtration		0.3μ absolute (β _{0.3} >1000)	0.3μ absolute ($\beta_{0.3} > 1000$)
Operating Temp. Range		-29°C to 93°C	-29°C to 93°C
Hydrophilic Agent		n/a	n/a
Filter Media		ePTFE	ePTFE
Connection Size (NPT)		1"	1"

non-desiccant filters

Hybrid Breathers

hybrid technology breathers for low-flow applications



Model Number		DC-VG-1	DC-HG-1	DC-HG-8
Unit Height		135 mm	183 mm	247.6 mm
Unit Diameter		64 mm	64 mm	104.1 mm
Shipping Weight (unit/case)		0.24 kg / 1.53 kg	0.26 kg / 1.7 kg	0.82 kg / 4.92 kg
Amount of Silica Gel		125.1 g	125.1 g	0.24 kg
Adsorption Capacity		49.6 mL	49.6 mL	120 mL
Max. Flow Rate (cfm)		1.45 @ 1 PSID	1.41 @ 1 PSID	2.5 @ 1 PSID
	(lpm)	41.06	39.93	70.5
Filtration		3μ absolute (β ₃ >200)	3μ absolute ($\beta_3 > 200$)	3μ absolute ($\beta_3 > 200$)
Operating Temp. Range		-29°C to 93°C	-29°C to 93°C	-29°C to 93°C
Hydrophilic Agent		Silica Gel	Silica Gel	Silica Gel
Filter Media		Polyester	Polyester	Polyester
Connection Size		3/8" (NPT)	3/8" (NPT)	1"

- Ideal for washdowns and high humidity areas
- Desiccant and particulate filtration ensures incoming air is clean and dry
- Expansion chamber system isolates lubes from extreme ambient humidity (DC-HG-1 and DC-HG-8)
- Check valves ensure no excess pressure/vacuum builds
- DC-VG-1 and DC-HG-1 incorporate advantages of Des-Case hybrid breathers in smaller footprints optimised for use with pumps and smaller gearboxes



Foam Pad Reduces oil mist exhalation. Ensures outgoing air is evenly disbursed through the filters and desiccant, providing maximum efficiency through "backflushing."

Water Vapour Adsorbent Silica gel absorbs water from incoming air. Indicates condition by change of colour from blue to pink.

Filter Element Patented polyester filter element removes airborne contamination to 3-micron absolute. Unique loops allow particles to release during system exhalation, helping to increase breather life. Expansion Chamber The diaphragm allows for expansion/

ows for expansion/ contraction of the air within the casing as a result of temperature variations during steady-state operations.

Filter Element Second polyester

filter element protects against any migration of desiccant.

____ Resilient Polycarbonate

Body Shock-absorbing, clear casing provides reliable service and easy maintenance.

Quad Check Valves ovides system pressurisation, protecting system integrity.

Plugs keep unit inactive until use

Threaded Mounting

Easily replaces standard filler/breather cap with one of two adapters.

Extreme Duty Breathers



ideal for harsh environments

- Automotive grade molded housing for increased vibration resistance
- Ideal for harsh environments, high temperatures, and mobile and nautical applications
- Multi-tiered filtration process
- Water vapour adsorbent
- · Check valve system extends product life even further

Filter Element Second particulate filter element protects against migration of desiccant.

Visual Indicator Windows on two sides of breather allow for easy_____ monitoring of desiccant.

Rugged Housing Constructed from a polycarbonate/ polybutylteraphtalate (PC/PBT) alloy. The molding process distributes the materials to maximize chemical compatibility at the surface and impact resistance at the core.

Foam Pad Captures any oil mist and disperses incoming air evenly over filtration and drying areas.

Foam Pad Foam filter reduces oil mist during exhalation, evenly distributes air.

Water Vapour Adsorbent Colour indicating silica gel adsorbs water from incoming air. Replace when colour changes from blue to pink.

Removes airborne contamination to 0.3-micron absolute. Stops free water.

Quad Check Valves Provides system pressurisation, protecting system integrity and extending product life.

Model Number	DC-XD6
Unit Height	165.4 mm
Unit Diameter	129.5 mm
Shipping Weight (unit/case)	1.37 kg / 9.06 kg
Amount of Silica Gel	0.79 kg
Adsorption Capacity	315 mL
Max. Flow Rate (cfm)	16 @ 1 PSID
(lpm)	456
Filtration	0.3μ absolute (β _{0.3} >200)
Operating Temp. Range	-40°C to 148.89°C
Hydrophilic Agent	Silica Gel
Filter Media	ePTFE
Connection Size	1 1/2" x 16 UN female thread

Every element of Des-Case's extreme duty breather has been designed to stand up to a wide variety of applications in challenging environments.

Des-Case extreme-duty breathers attack the cause of contamination, keeping dirt and water where it belongs – out of your equipment.

Specialty Breathers

for various applications

Secondary Agent Breathers

Prevents fumes/other contaminants from entering or exiting reservoir, depending on additional adsorbent.

Secondary agent options include:



Orange Silica Gel

Activated Carbon

Molecular Sieve

Activated Alumina

Layered (Blue Silica Gel and Molecular Sieve)

Adapter Kits

Example: Activated Carbon Breathers

Model No.	DC-2SBNCXX*	DC-3SBNCXX*	DC-4SBNCXX*	
Unit Height	155.6 mm	206.4 mm	267.2 mm	
Diameter	101.6 mm	101.6 mm	101.6 mm	
Shipping Weight (unit/case)	0.55 kg / 3.51 kg	0.85 kg / 5.32 kg	1.2 kg / 7.33 kg	
Max. Amount of Silica Gel	0.30 kg	0.56 kg	0.84 kg	
Max. Adsorption Capacity**	118.2 mL	220.3 mL	333 mL	
Max. (cfm)	16 @ 1 PSID	16 @ 1 PSID	16 @ 1 PSID	
Flow Rate (lpm)	453	453	453	
Operating Temp. Range	-29°C to 93°C	-29°C to 93°C	-29°C to 93°C	
Body Material	Nylon & Polycarbonate	Nylon & Polycarbonate	Nylon & Polycarbonate	
Hydrophilic Agent	Silica Gel	Silica Gel	Silica Gel	
Filter Media	Polyester	Polyester	Polyester	
Connection Size	1" threaded	1" threaded	1" threaded	

The above specifications are for a silica gel-only hydrophilic agent breather. Some specifications for a breather containing a secondary agent would change.

 * Note: "XX" denotes percentage of activated carbon. For example, DC-2SBNC25 is a DC-2 with 25% activated carbon.

** Same as the equivalent standard desiccant breather at maximum.

prohibit entry of dirt and moisture



Hydraulic Adapter Kit



ter Kit Drum Adapter Kit



Gearbox Adapter Kit



Tote Adapter Kit

Easy-to-install FlowGuard[™] adapter kits incorporate smart technology to make fluid handling a simple task, requiring less equipment and labour while reducing system contamination. Customise your adapter kit by contacting your Des-Case distributor.

Breather Accessories

meeting your specific needs

Des-Case provides a wide range of disposable breather accessories for easy adaptation to your specific applications and working environment.

Model #	Description
DC-12-T	Connects standard breather or Hydroguard to 6-hole flange opening
DC-13-T	Connects standard breather or Hydroguard to 1" male threaded connection
DC-15-T	Connects standard breather or Hydroguard to 1½" bayonet-style opening
DC-17-T	Connects standard breather or Hydroguard to ³ / ₄ " female threaded connection
DC-35	Connects DC-BB, DC-1 or VentGuard to ³ / ₄ " female threaded connection
DC-36	Connects DC-BB, DC-1 or VentGuard to 1" female threaded connection
DC-37	Connects DC-BB, DC-1 or VentGuard to 1/2" female threaded connection
DC-DSA-10	Seats Extreme Duty breather on 1" female threaded connection
DC-DSA-17	Seats Extreme Duty breather on ³ /4" female threaded connection
DC-XDVA-12M	Vent valve adapter seats Extreme Duty breather on 1" male threaded connection
DC-13-T-VI	Standard breather to 1" male threaded connection adapter, with single-position vacuum indicator
DC-OCM5-VI	Standard breather to 1" male threaded connection adapter, with oil-mist coalescing media and single-position vacuum indicator
DC-SB-VI	Connects DoublePlay [™] and TriplePlay [™] to 1" female threaded connection with single-position vacuum indicator
DC-ME-2-T	Connects two standard breathers to 2" female threaded connection
DC-ME-3-T	Connects three standard breathers to 2" female threaded connection
DC-ME-4-T	Connects four standard breathers to 2" female threaded connection
DC-13-6C	Threaded Adapter for DC-RS-3, DC-RS-5, and DC-RS-7
DC-13-10C	Threaded Adapter for DC-RS-15, DC-RS-25, DC-RS-50, and DC-RS-75
DC-13-40C	Threaded Adapter for DC-RS-100, DC-RS-150, and DC-RS-200

Vacuum Indicator Adapter Single position indicator actuates when maximum filter restriction has been reached.



DC-SB-VI

Oil Coalescing Adapter

Oil coalescing media captures oil mist, funnels back to system.



DC-OCM5-VI

Breather Manifolds

Available in 2, 3 or 4 breather configurations to mount multiple disposable breather models.





Rebuildable Steel Breathers

for high-flow or harsh environments



Model #	DC-RS-3	DC-RS-5	DC-RS-9	DC-RS-15	DC-RS-25	DC-RS-50	DC-RS-75	DC-RS-100	DC-RS-150	DC-RS-200
Height (mm.)	292	349	464	489	571	794	1010	787	933	1086
Width (mm.)	257.2	257.2	257.2	393.7	393.7	393.7	393.7	596.9	596.9	596.9
Connection Size (NPT)	2"	2"	2"	3"	3"	3"	3"	4"	4"	4"
Amount of Desiccant (kg)	1.36	2.27	4.08	6.80	11.34	22.68	34.02	45.36	68.04	90.72
Flow rate	85 @ 0.5 PSID 2407 Lpm	85 @ 0.5 PSID 2407 Lpm	80 @ 0.5 PSID 2265 Lpm	205 @ 0.5 PSID 5805 Lpm	140 @ 0.5 PSID 3964 Lpm	115 @ 0.5 PSID 3256 Lpm	80 @ 0.5 PSID 2265 Lpm	270 @ 0.5 PSID 7645 Lpm	250 @ 0.5 PSID 7079 Lpm	240 @ 0.5 PSID 6796 Lpm
Approx. Dry Weight (kg)	7.26	9.07	12.25	22.23	29.03	45.36	65.32	86.18	114.76	142.88
Adsorption Capacity (L)	0.54	0.9	1.62	2.7	4.5	9	13.5	18	27	36
Operating Temperature	-29 to 104°C									

How the Product Works

As wet, dirty air is drawn through the unit, the hygroscopic agent extracts moisture and a 1-micron microglass pleated filter element removes solid particulate.

When the air is expelled from the container, the foam pad cleans itself by releasing dirt back into the atmosphere. The hygroscopic agent is partially reactivated by the dry air passing back through, thereby permitting longer periods between replacing components (or rebuilding).



Pleated Filter Element Captures airborne contamination to 1-micron absolute, $\beta_i > 1,000$.

Water Vapor Adsorbent Clear silica gel adsorbs water from incoming air.

Outside sight glass indicator Silica gel changes color from blue to pink when the unit requires component replacement (or rebuilding).

Removable plugs keep breather inactive until installation.

Integrated Standpipe Resilient construction provides durability and allows oil mist to coalesce and drain back into a reservoir.

Parts and Accessories

Model #	Description
DC-RS- X -RK	Rebuildable Steel Breather Rebuild Kits
DC-RS-X-F1	Rebuildable Steel Breather Microglass Filter Elements
DC-RS-X-D1	Rebuildable Steel Breather Desiccant Bag Sets
DC-RS-X-SG1	Rebuildable Steel Breather Sight Glass Cartridges
DC-RS-X-P1	Rebuildable Steel Breather Foam Pad Inserts
DC-RS-X-G1	Rebuildable Steel Breather Gasket Seals

* For part codes containing **X**, substitute the appropriate RS model number. (Example: the part code for a sight glass cartridge for the DC-RS-150 would be DC-RS-**150**-SG1.)

Des-Case recommends use of a pressure/relief valve on any tank or storage system.

Steel Unit Adapters

There are several steel unit adapters available to meet your needs. *See page 11.*



Rebuild Kit Components

Replacement Filter Element

Captures airborne contamination to 1-micron absolute.



Desiccant Bag Filter

Polypropylene bag has handles for easy removal and replacement.



Sight Glass Indicator

Silica gel changes color from blue to pink when the unit requires rebuilding.



Gasket

Seals breather at removable lid.

Foam Pad

Disperses incoming air evenly over filtration and drying areas.

Contamination Control

Count on the performance of your industrial equipment.

With increases in the cost of oil, greater desire to minimise usage and waste, and a compelling business case for prolonging equipment life, the economic and environmental reason for controlling contamination of lubricants – from the time oil enters a facility until it leaves – is stronger than ever. Maintaining clean oil is one of the best investments a company can make to keep equipment up and running, yet contamination often remains an overlooked factor behind premature machinery failure and diminished lubricant life.

Reduced downtime, less oil usage, and lower repair and recycling costs all add up to significant savings when solid reliability practices are in place.

Two Major Sources of Lubricant Contamination



Dirt

If the atmosphere is contaminated, oil will become dirtier and lubricant quality becomes compromised. Particulate contamination, once inside an operating system, will accelerate the generation of new contaminants. These contaminants damage critical components and act as a catalyst for oxidation, further degrading the condition of lubricants.



Water

If the atmosphere is particularly humid or has frequent temperature fluctuations, the oil is probably moisture-laden and lubricant quality is compromised. Often, plant wash-down activities are responsible for inducing conditions that lead to moisture ingression and corrosion. The best and easiest way to prolong lubricant life is to avoid exposing lubes to contaminants. A multi-faceted program that includes some simple steps can keep your equipment running smoothly.



Detection

Des-Case's Equipment Reliability Services (ERS) are designed to help you critically evaluate an array of equipment information: the application, the industry, the environment the unit is in, the particular fluid used, the condition of the lubricant, etc. ERS can help you quickly identify the next steps you need to take, help your team learn the basics about contamination control, and perform cost-benefit analyses to help you in your implementation of best practices.



Prevention

As nearly all gearboxes, reservoirs and storage tanks are designed to breathe, allowing only clean, dry air to enter the system is at the top of the list of steps to take. Des-Case's desiccant breathers combine a drying media with a combination of filters to prohibit the entry of water and damaging particulates from entering the system.



Removal

Filtration devices should be used to remove particles and moisture, further preserving the working life of the oil. They are not just a tool for emergency remedial measures when dealing with contaminated lubricants and hydraulic fluids. Des-Case provides a wide array of customisable, quality filtration units that are quickly delivered to you for use in your program.

The Bottom Line

Now, implementing best practice contamination control techniques, maintaining clean, dry lubricants and gaining the profitability that goes along with it—is easier than ever.

Des-Case's technical team can help you evaluate where you are, give you guidance on where to go, and provide the products to get you there.





contact us

Thousands of satisfied Des-Case product users around the world enjoy an outstanding record of trouble-free service and quality product support. If you have questions regarding Des-Case products, one of our trained professionals will assist you in getting the information you need quickly.

For assistance, please call (615) 672-8800 or visit www.descase.com.

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