

waterlimited![®]
SIMPLE SOLUTIONS



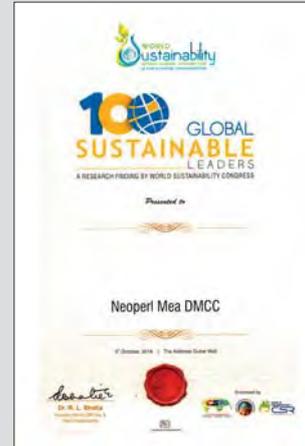
**EVERYBODY,
EVERY DAY,
IN EVERY LITTLE WAY**

brought to you by
VERTECO

NEOPERL[®]

flow, stop and go[®]

NEOPERL MIDDLE EAST



Neoperl MEA DMCC was founded in Dubai, United Arab Emirates in 2014 and is part of the international Neoperl Group.

Our team strives to provide excellent service to our customers in the Middle East and Africa every single day.

With our state-of-the-art test bench, built according to DIN standards, we are able to run test curves from 0.1 up to 10 bar.

We invite and welcome our customers to optimise their plumbing products while making sure they adhere to the latest standards and requirements.



THE NEOPERL GROUP

All in one: your drinking water expert

The Neoperl Group is a leading supplier for the plumbing industry around the globe. We develop, produce and market solutions for drinking water. For more than 50 years and counting, faucet manufacturers, industrial customers, retailers and distributors have placed their trust in us.

NEOPERL® products shape the water stream, regulate the flow rate, connect appliances to water and protect drinking water from contamination. Our water-saving products enable everyone to reduce their use of this precious resource and to reduce their energy consumption by heating less water – a simple solution to the benefit of the environment and the climate.

Bound to succeed: thanks to our know-how

The know-how provided by our approx. 1,700 employees in 18 countries is the cornerstone of our success. Production sites in Europe, Asia and the United States as well as sales offices in all major markets form our dense global network.

Through our extensive regional presence we have gained detailed knowledge of local and country-

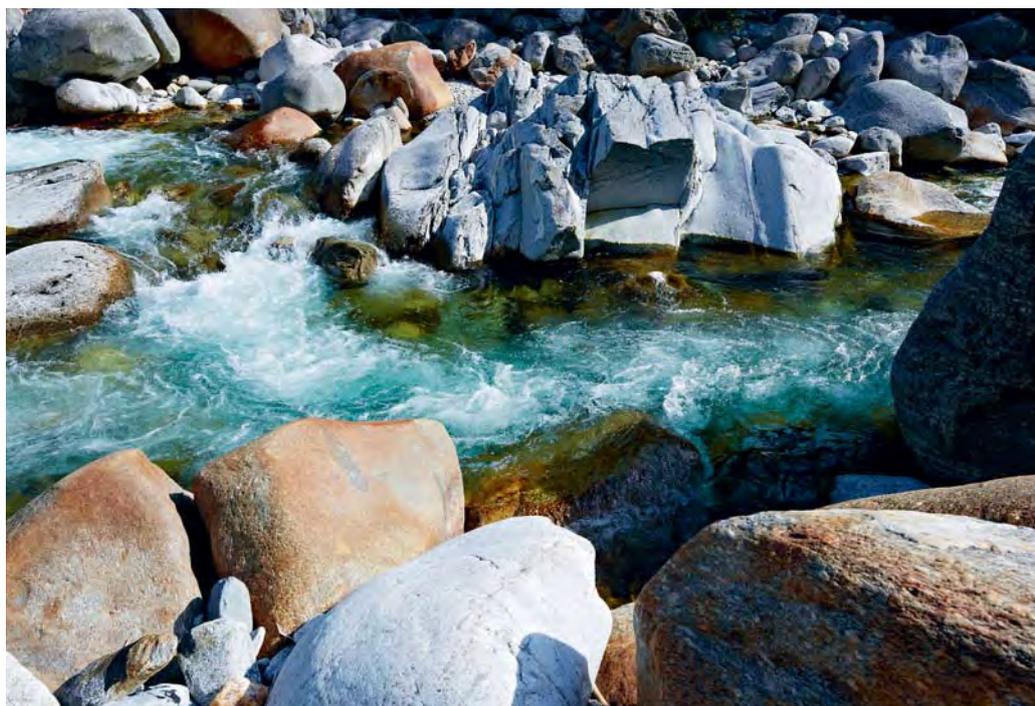
**Like a mountain stream, we never cease to follow our course.
If we encounter obstacles, we gather speed and find ways to get round them.
Our competent staff, innovative power and the vast wealth of knowledge
at hand provide the continuous flow of energy that drives us forward.**

specific characteristics. We understand what makes each market unique. Our technical know-how combined with our international sales and marketing expertise turn us into specialists for drinking water – all around the world.

The perfect product: through innovation and focus on quality

The research & development department in Müllheim (Germany) is our “innovation engine”. In our first-class state-of-the-art facilities we develop competitive solutions tailored to the multifaceted needs of our international clients. To do so, we rely on the valuable input provided by our customers and partners. Together, we keep exploring – and pushing – the boundaries of the technically feasible and thus develop tomorrow’s solutions today.

In order to secure our leading position quality-wise, we rely on automation to the greatest possible extent, while every single production step is subject to an integrated, 100% quality control process.



**PLUMBING COMPONENTS THAT ENSURE
BETTER PERFORMANCE.**



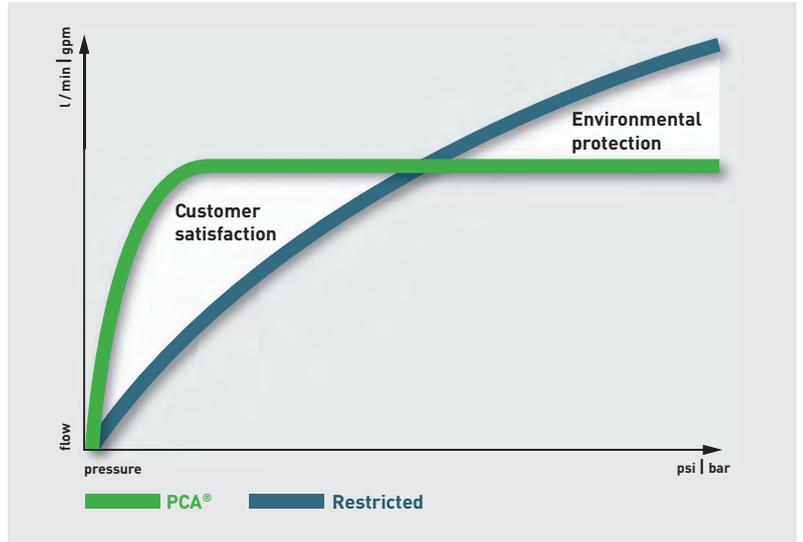
CASCADE SLC M24×1 Aerator

FLOW REGULATION

Aerators and Washer Regulators with flow regulation

PCA = Pressure Compensating Aerator / PCW= Pressure Compensating Washer

There are basically two ways to control the flow. One is to restrict it by defining the size of the orifice in such a way as to permit a predetermined flow rate at a specific pressure (e.g. 3 bar). Neoperl refers to these products as "flow restrictors". While flow restrictors allow little water to pass at low pressure, the flow rate is often higher than necessary at high pressure.



Example: aerator with integrated flow regulator

Under normal conditions, the water flow through an aerator increases as the pressure rises. However, it may be necessary to achieve a virtually constant flow rate, regardless of pressure fluctuations, in situations where the flow rate is subject to certain requirements, e.g.

- compliance with standards in specific markets
- saving water
- regulated distribution of water.

This is where the flow regulator technology comes in. PCA aerators and PCWs are easier and more convenient to use than flow restrictors at low pressure and save water at high pressure. The user uses as much water as needed (customer satisfaction) but not more than is necessary (environmental protection).

Standard PCA
from 1.0 to 5.0 bar



Dual Core
from 0.2 to 5.0 bar



Available from spring 2017!

The new Dual Core technology offers all the benefits of Neoperl's flow regulator technology and on top of that, it can be used in low-pressure applications.

Operating principle



Static state (no flow, no or low pressure)
The o-ring is relaxed (position 1).



Dynamic state (flow)
As soon as water flows through the flow regulator, the o-ring becomes distorted and is pressed into the gaps between the teeth of the core. This reduces the size of the opening for the water (position 2).



The deformation of the o-ring increases as the **pressure rises** (position 3).

When the pressure decreases, the o-ring gradually returns to its original shape, thus increasing the size of the opening for the water (returning to position 2 and then to position 1).

AERATORS

Features

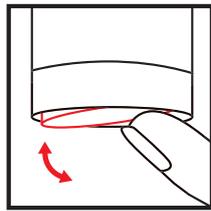


SLC integrated

SLC optional

SLC (Smart Lime Cleaning)

Lime deposits at the tip of the aerator can simply be rubbed away thanks to the soft elastomer surface. This extends the service life substantially.



SSR integrated

SSR optional

SSR (swivel plate)

The SSR function offers a means of adjusting the direction of the water stream as needed. The inclination angle of the swivel plate on the outlet side is adjustable. The maximum swivel angle depends on the model and varies between $\pm 6^\circ$ and $\pm 10^\circ$.



AC integrated

AC optional

AC (AutoClean)

The dome screen of an AC aerator has an automatic cleaning function. Small dirt particles (up to 0.7 mm in size) are simply flushed out. This ensures that the stream pattern and flow rate remain unaffected, even after long periods of use.

Insert and housing sizes



TT (Tom Thumb) size

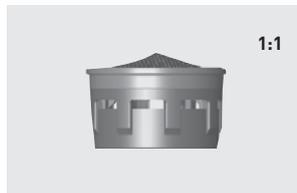
female M16 x1
male M18 x1
IG 3/8"



TJ (Tiny Junior) size

female M19 x1
male M20 x1

Compact Vandal Proof
male M24 x1



STD (Standard) size

female M22 x1*
male M24 x1*

US female 55/64"-27
UNS-2B*
US male 15/16"-27 UNS-2A*



Small 24 x 6 mm



Medium 28 x 7 mm



Shorty STD (Standard) size

Shorty male M24 x1

Shorty US female 55/64"-27
UNS-2B
Shorty US male 15/16"-27
UNS-2A



TF (Tub Filler) size

male M28 x1



Large 32 x 8 mm



X-Large 40 x 10 mm

All aerator housings are available upon request with special surface finishes, customised laser engraving and in various colours.

* Vandal-proof versions available.

Stream patterns



Aerated stream

Aerators use the Venturi effect to introduce air into the water stream. This gives the water a pleasantly abundant, soft feel for the user – regardless of the flow rate. Uncontrolled water splashing is a thing of the past.



Mikado stream

The new Mikado stream is a real eye-catcher. The extraordinary, grid-like spray pattern – formed by individual water jets – looks clear and harmonious. Owing to its form the spray loses density as it moves downwards, hence the force of the jets ranges from vigorously massaging to pleasantly soft.



Spray stream

The spray stream offers an ideal means of dispersing water over the largest possible wetting area when the flow rate is low. Its water-saving attributes also make the spray stream an interesting prospect for highly frequented washrooms (e.g. in public buildings).



Atomized stream

Aerators with atomizer stream offer a good water dispersion (thanks to atomization) and extremely low flow rates.

Lime build-up

Aerator testing:

Two new aerators have been tested in the following conditions:

- simulation of the equivalent of 5 to 6 years of use
- water temperature of approx. 15 °C/59 °F
- room temperature of approx. 20 °C/68 °F
- water hardness 20–30° dH (German hardness)

Aerators with metal wire mesh screen

A film of water builds up over time, which forms a bridge between the insert and the housing. This is where lime begins to form. The lime gradually spreads towards the middle of the screen and finally clogs the air inlets. The stream becomes hard and splashes.



Aerators without metal wire mesh screen

With full-plastic aerators, the formation of water film bridges is hindered. Lime build-up is slowed down considerably thanks to their unique structure (CASCADE and HONEYCOMB). They continue to produce a straight, non-splashing stream of water, even after long periods of use.



Additional lime protection: SLC feature



Lime clogs aerators over time. Neoperl has developed the SLC feature for maximum lime resistance: you can simply rub away any lime deposits on the outlet surface of the aerator with your finger.

AERATORS



Aerator product lines: inserts with housings for standardised threads



PERLATOR® HONEYCOMB

Improved lime protection due to HONEYCOMB structure; extended life time; perfect stream quality; very low noise level.

Size	Flow rate	Colour code	Insert only	M24 × 1 	M22 × 1 
STD	PCA 1.0 gpm max. (~3.8 l/min)	blue	40.2058.000	40.2058.033	40.2058.023
STD	PCA 1.5 gpm max. (~5.7 l/min)	green	40.2056.000	40.2056.033	40.2056.023

Size	Flow rate	Colour code	Insert only	M18 × 1	M16 × 1
TT	PCA 1.0 gpm max. (~3.8 l/min)	blue	44.3058.000	44.3058.033	44.3058.023
TT	PCA 1.5 gpm max. (~5.7 l/min)	green	44.3056.000	44.3056.033	44.3056.023

Size	Flow rate	Colour code	Insert only	M20 × 1	M19 × 1
TJ	PCA 1.0 gpm max. (~3.8 l/min)	blue	43.2058.000	43.2058.033	43.2058.023
TJ	PCA 1.5 gpm max. (~5.7 l/min)	green	43.2056.000	43.2056.033	43.2056.023

Size	Flow rate	Colour code	Insert only	M28 × 1
TF	B (22.8 - 25.2 l/min at 3 bar)	dark blue	41.2005.000	41.2005.093
TF	C (27.0 - 30.0 l/min at 3 bar)	dark grey	41.2006.000	41.2006.093



PERLATOR® HONEYCOMB SSR

SSR

Simply change the stream angle via the insert's tilting plate. ± 6° to ± 10° adjustment is possible (depending on model).

Size	Flow rate	Colour code	Insert only	M24 × 1 	M22 × 1 
STD	PCA 1.0 gpm max. (~3.8 l/min)	blue	40.6058.000	40.6058.033	40.6058.023
STD	PCA 1.5 gpm max. (~5.7 l/min)	green	40.6056.000	40.6056.033	40.6056.023
STD	PCA 2.0 gpm max. (~7.6 l/min)	lilac	40.6057.000	40.6057.033	40.6057.023



CASCADE

Excellent lime protection (extended life time); perfect stream quality; very low noise level.

Size	Flow rate	Colour code	Insert only	M24×1 	M22×1 
STD	PCA 0.35 gpm max. (~1.3 l/min)	brown	40.1068.000	40.1068.033	40.1068.023
STD	PCA 0.5 gpm max. (~1.9 l/min)	lime	40.1059.000	40.1059.033	40.1059.023
STD	PCA 1.0 gpm max. (~3.8 l/min)	blue	40.1058.000	40.1058.033	40.1058.023
STD	PCA 1.5 gpm max. (~5.7 l/min)	green	40.1056.000	40.1056.033	40.1056.023
STD	PCA 2.0 gpm max. (~7.6 l/min)	lilac	40.1057.000	40.1057.033	40.1057.023

Size	Flow rate	Colour code	Insert only	M28×1
TF	B (22.8 - 25.2 l/min at 3 bar)	dark blue	41.1005.000	41.1005.093
TF	C (27.0 - 30.0 l/min at 3 bar)	dark grey	41.1006.000	41.1006.093



CASCADE SLC

SLC

Maximum lime resistance: SLC (Smart Lime Cleaning) for maximum aerator lifespan. Simply rub the limescale away with the finger; perfect stream quality.

Size	Flow rate	Colour code	Insert only	M24×1 	M22×1 
STD	PCA 1.0 gpm max. (~3.8 l/min)	blue	40.0058.000	40.0058.033	40.0058.023
STD	PCA 1.5 gpm max. (~5.7 l/min)	green	40.0056.000	40.0056.033	40.0056.023
STD	PCA 2.0 gpm max. (~7.6 l/min)	lilac	40.0057.000	40.0057.033	40.0057.023

Size	Flow rate	Colour code	Insert only	M28×1
TF	B (22.8 - 25.2 l/min at 3 bar)	dark blue	41.0005.000	41.0005.093
TF	C (27.0 - 30.0 l/min at 3 bar)	dark grey	41.0006.000	41.0006.093

AERATORS



Aerator product lines: inserts with housings for standardised threads



Shorty

The Shorty HONEYCOMB aerator opens up new possibilities in faucet design with its shortened housing for a classical yet modern touch.

Size	Flow rate	Colour code	Insert only	M24 × 1 (short)	M22 × 1 (short)
STD	PCA 1.5 gpm max. (~5.7 l/min)	green	40.2956.000	40.2956.243	40.2956.233
STD	PCA 2.0 gpm max. (~7.6 l/min)	lilac	40.2957.000	40.2957.243	40.2957.233

Size	Flow rate	Colour code	Insert only	M18 × 1 (short)
TT	PCA 1.0 gpm max. (~3.8 l/min)	blue	44.3958.000	44.3958.243
TT	PCA 1.5 gpm max. (~5.7 l/min)	green	44.3956.000	44.3956.243



Housing comparison:
classic M24 × 1 and Shorty M24 × 1



PCA Spray

Spray stream: good water dispersion at low flow rates; recommended for wash troughs in public facilities.

Size	Flow rate	Colour code	Insert only	M24 × 1 	M22 × 1 
STD	PCA 0.35 gpm max. (~1.3 l/min)	brown	A5.9041.1	A5.9241.0	A5.9141.0
STD	PCA 0.5 gpm max. (~1.9 l/min)	lime	A5.9042.1	A5.9242.0	A5.9142.0
STD	PCA 1.0 gpm max. (~3.8 l/min)	blue	A5.9046.1	A5.9246.0	A5.9146.0



PCA Spray SLC

SLC

Spray stream: good water dispersion at low flow rates; recommended for wash troughs in public facilities. With SLC feature to easily remove limescale deposits.

Size	Flow rate	Colour code	Insert only	M24 × 1 	M22 × 1 
STD	PCA 0.35 gpm max. (~1.3 l/min)	brown	40.7268.000	40.7268.033	40.7268.023
STD	PCA 0.5 gpm max. (~1.9 l/min)	lime	40.7259.000	40.7259.033	40.7259.023
STD	PCA 1.0 gpm max. (~3.8 l/min)	blue	40.7258.000	40.7258.033	40.7258.023



Atomizer Aerator

An atomized stream with an ultra-low flow rate. For cold water applications only.

Size	Flow rate	Version	Insert only	M24 x 1 	M22 x 1 
STD	~ 0.15 l/min at 3 bar	single-jet	02.0422.0	01.0423.0	01.0424.0
STD	~ 0.7 l/min at 3 bar	triple-jet	02.0420.0	01.0418.0	01.0419.0

DESIGNER STREAM PATTERNS: MIKADO & RECTANGULAR



MIKADO Aerator DUE

The MIKADO aerator turns the stream into an eye-catcher when washing your hands.

Size	Flow rate		Insert only	M24 x 1 	M22 x 1 
STD	PCA 0.35 gpm max. (~1.3 l/min)	brown	40.7C68.000	40.7C68.033	40.7C68.023
STD	PCA 0.5 gpm max. (~1.9 l/min)	lime	40.7C59.000	40.7C59.033	40.7C59.023

Aerator product lines: specialty with rectangular stream shape



PERLATOR® Rectangular

Enables uniquely shaped water stream, thus offering completely new options in tap design.
RS = rectangular sealing.

Size	Flow rate	Colour code	Insert
32x8 mm	PCA 1.2 gpm max. (~4.5 l/min)	pink	02.3234.0
32x8 mm	PCA 1.5 gpm max. (~5.7 l/min)	green	02.3236.0
32x8 mm RS	PCA 1.2 gpm max. (~4.5 l/min)	pink	02.3225.0
32x8 mm RS	PCA 1.5 gpm max. (~5.7 l/min)	green	02.3226.0

FLOW REGULATORS



Flow regulators maintain a defined, virtually constant flow rate regardless of pressure fluctuations. You can use flow regulators to reduce water consumption in showers, shattafs and bib taps.

NEOPERL® flow regulators comprise a precision control o-ring, a core and a housing (certain models only). The gap between the o-ring and the teeth of the core is the opening through which the water flows.

Product lines

PCW-01 washer regulator

Two functions in one: regulating and sealing. Replaces the washer in shower hoses.

	Flow rate	Colour	Part no.	Size
	1.0 gpm max. (~3.8 l/min)	dark blue	58.8644.1	1/2" connection
	1.5 gpm max. (~5.7 l/min)	green	58.8645.1	1/2" connection
	2.2 gpm max. (~8.3 l/min)	yellow	58.8648.1	1/2" connection
	4.0 l/min	dark grey	58.8634.1	1/2" connection
	6.0 l/min	black	58.8636.1	1/2" connection
	9.0 l/min	orange	58.8639.1	1/2" connection
	12.0 l/min	red	58.8642.1	1/2" connection



PCW-02 washer regulator

Two functions in one: regulating and sealing. Replaces the washer in shower handles or bib taps.

	Flow rate	Colour	Part no.	Size
	1.0 gpm max. (~3.8 l/min)	dark blue	58.9170.1	1/2" connection
	1.5 gpm max. (~5.7 l/min)	green	58.9171.1	1/2" connection
	2.2 gpm max. (~8.3 l/min)	yellow	58.9174.1	1/2" connection
	4.0 l/min	dark grey	58.9086.1	1/2" connection
	6.0 l/min	black	58.9088.1	1/2" connection
	9.0 l/min	orange	58.9091.1	1/2" connection
	12.0 l/min	red	58.9094.1	1/2" connection



PCR-E 1/2" x 1/2" Shower Connection

Simply insert the 1/2" screw connection between shower faucet and hose. Easy to install – perfect for retrofit.

	Flow rate	Part no.
	4.0 l/min	A5.2213.0
	6.0 l/min	A5.2217.0
	9.0 l/min	A5.2223.0
	12.0 l/min	A5.2226.0



PRESSURE LIMITER



Pressure limiter

Limits the dynamic downstream pressure on application to 1 bar, independent of supply pressure (dynamic = flow rate >0).

	Model	Part no.
	Pressure Limiter G1/2" 1 bar	A5.0006.0

SHOWER HOSES



CHROMALUX Supreme



- 1 Outer hose** transparent PVC
- 2 Coloured foil**
- 3 PVC layer**
- 4 Reinforcement** longitudinal and cross-linked wires
- 5 Inner hose** PVC



chrome



polished brass



shiny black



shiny white

CHROMALUX Metallic



- 1 Outer layer** transparent PVC
- 2 Metallic wrap** polyester foil band
- 3 Reinforcement** longitudinal threads
- 4 Inner hose** PVC



chrome

CHROMALUX Stainless

(for shattaf application)



- 1 Outer layer** transparent PVC
- 2 Braiding** stainless steel
- 3 Inner hose** PVC



stainless steel

CONNECTING HOSES



FLEXCORE

Very flexible and kink-free, for extremely small mounting spaces. Drinking water approved.

DN8	Type	Overall length (in mm)*			
	G1/2" x G1/2"	350	450	600	900
	G1/2" x M10x1	350	450	600	900

* other lengths available on request

Inliner corrugated



Application areas



Technical information

Operating / max. temperature	70° C	Tensile strength	> 1000 N	Braided outer diameter	12.5 mm
Max. working pressure	10 bar	Bending radius	25 mm	Flow rate (300mm, 3 bar, open atmosphere)	29 l/min
Burst pressure	> 100 bar	Bending behaviour	< 15%		

Attainable standards



PRODUCT OVERVIEW

October 2016



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flow, stop and go®