



Atlas Copco



Генераторы азота  
и кислорода

A technical drawing of a generator component, showing a cross-section of a cylindrical vessel with various internal structures and dimensions. The drawing is overlaid on a blue triangular graphic.

# ГАРАНТИРОВАННОЕ СНАБЖЕНИЕ АЗОТОМ И КИСЛОРОДОМ

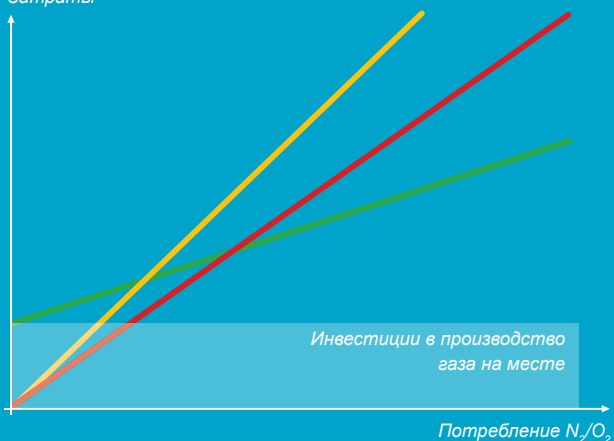
Надёжная подача промышленного газа играет критически важную роль в химической и электронной промышленности, лазерной резке или при производстве пищевых продуктов и напитков. Производство газа на месте обладает множеством преимуществ по сравнению с использованием газовых баллонов или резервуаров с сжиженным газом: от снижения затрат до постоянной готовности к работе. Высокотехнологичные азотные и кислородные генераторы от компании «Атлас Копко» — это оптимальное решение: гибкое производство промышленных газов при наименьших затратах.



## Сравнение стоимости производства газа на месте потребления с жидким газом или газом в баллонах

- Ваше независимое производство промышленного газа.
- Постоянная готовность к работе: круглосуточно, 7 дней в неделю.
- Значительная экономия и уменьшение эксплуатационных расходов: нет расходов на аренду, транспорт, отсутствие потерь из-за испарения при хранении.
- Безопасное использование баллонов под высоким давлением.
- Простая интеграция с имеющимися на предприятии системами сжатого воздуха.

Затраты



● Газ в баллонах ● Жидкий газ ● Производство газа на месте

Жидкий газ/ газ в баллонах	Производство азота на месте потребления
Аренда ёмкости	Инвестиции
N <sub>2</sub>	Энергозатраты
Транспортировка	Обслуживание
0.1-0.8 евро/м³(*)	0.02-0.15 евро/м³(**)
N <sub>2</sub> : 99.999%	N <sub>2</sub> : 95-99.999%

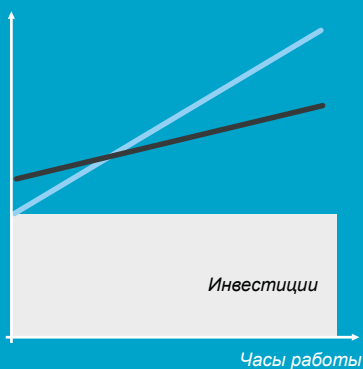
(\*) Среднее по рынку, может применяться другое ценообразование.

(\*\*) В зависимости от чистоты и стоимости электроэнергии.

## Высокая надёжность

- Проверенная технология: простая, надёжная и долговечная.
- В точном соответствии с требованиями чистоты азота для вашего применения.
- Дополнительная выгода благодаря низким расходам на эксплуатацию.
- Опыт мирового уровня в уникальном предложении: от сжатого воздуха до производства газа.

Стоимость жизненного цикла изделия

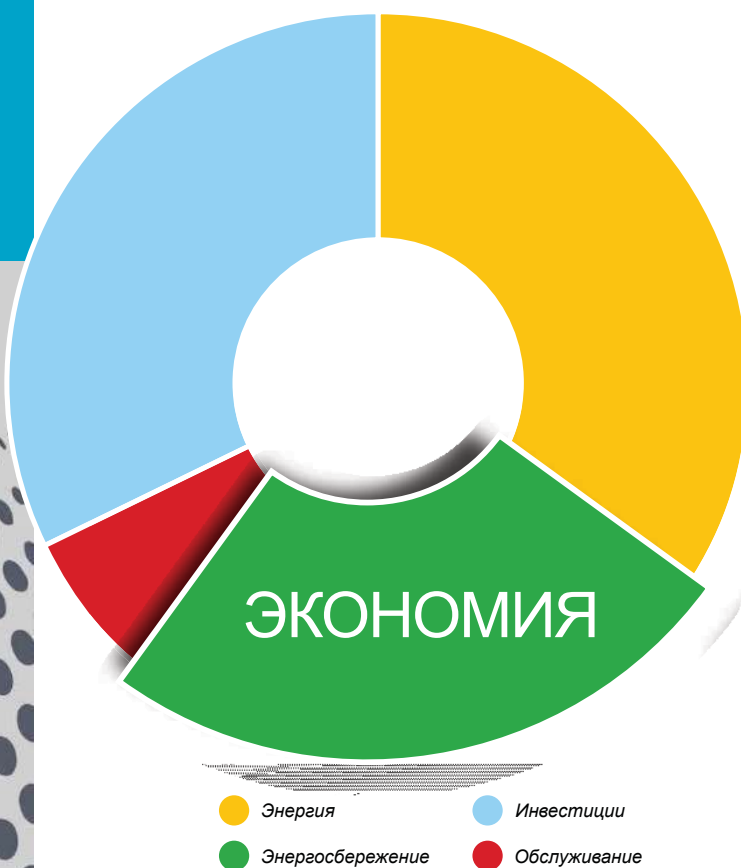


● Другие генераторы азота ● Генератор азота NGP+/NGM+

Показатель производительности азота от 1,8 (при 95%) до 5,5 (при 99, 999%) и специальный алгоритм управления продолжительностью цикла позволяют снизить эксплуатационные расходы на 50% по сравнению с другими генераторами азота.

## Новое поколение мембранных генераторов и генераторов с технологией PSA

Новейшие генераторы мембранного типа и генераторы с технологией короткоциклового адсорбции (PSA) от компании «Атлас Копко» обладают дополнительными преимуществами по сравнению с существующей линейкой. В стоимость жизненного цикла изделия входят затраты на первоначальные инвестиции при установке независимого производства газа, стоимость сервисных работ и электроэнергии. Серия NGP/NGM отличается самым низким уровнем инвестиций. Однако при увеличении времени работы оборудования рекомендуется перейти на линейку NGP+/NGM+, чтобы снизить расходы на электроэнергию.



● Энергия ● Инвестиции  
● Энергосбережение ● Обслуживание

## Широкий диапазон применения

- Производство пищевых продуктов и напитков (хранение и упаковка).
- Фармацевтика.
- Литье пластмассы под давлением. Заливка пластмассы в форму под давлением.
- Электронная промышленность.
- Лазерная резка.
- Производство полупроводников.
- Химическая промышленность.
- Металлообработка.
- Производство кабелей и оптоволокон.
- Стекольная промышленность.
- Пожаротушение.
- Аквакультура.



# ГЕНЕРАТОРЫ АЗОТА МЕМБРАННОГО ТИПА: КОМПАКТНОЕ РЕШЕНИЕ ДЛЯ ПРОИЗВОДСТВА АЗОТА, ВКЛЮЧАЮЩЕЕ ВСЕ НЕОБХОДИМОЕ

В генераторах азота серии NGM/NGM+ от компании «Атлас Копко» используется запатентованная технология разделения воздуха с помощью мембраны. Мембрана разделяет сжатый воздух на два потока: азот с чистотой 95-99% и кислород, насыщенный углекислым и другими газами.

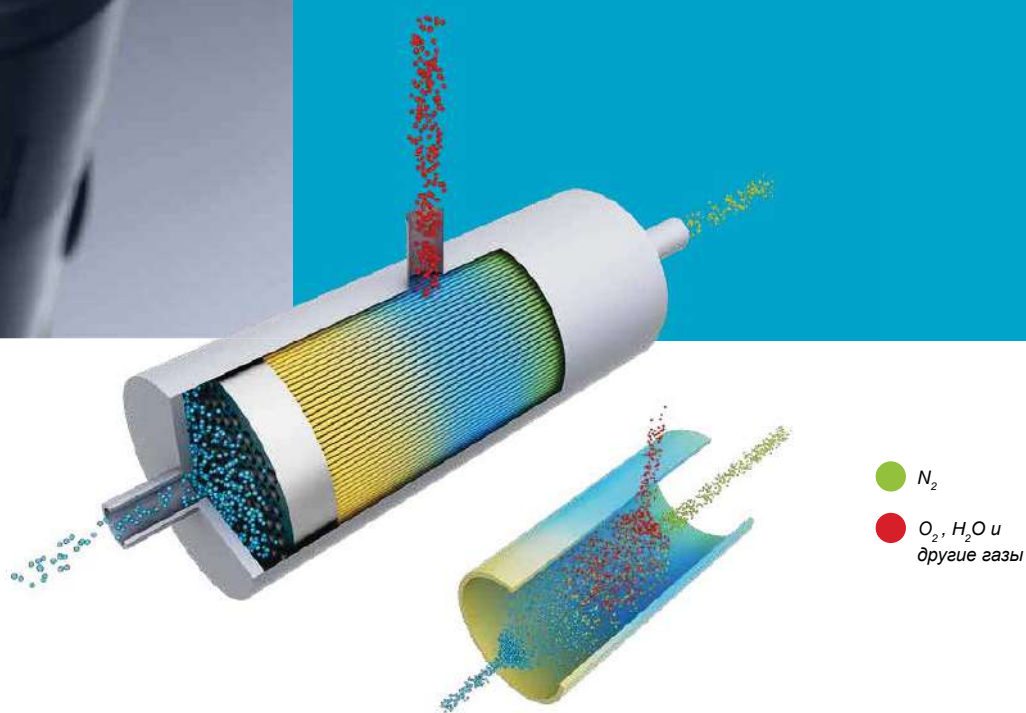


## Мгновенное производство азота чистотой от 95% до 99%

Генератор разделяет воздух на компоненты, пропуская недорогой сжатый воздух через полупроницаемые мембраны, которые состоят из групп полых волокон. Все волокна имеют абсолютно круглое сечение с одинаковым отверстием по центру. За счёт малого размера большое количество волокон может быть размещено в ограниченном пространстве, что обеспечивает очень большую площадь мембранной поверхности, благодаря чему можно создать относительно высокий объём потока продукта.

## Исключительно сухой азот

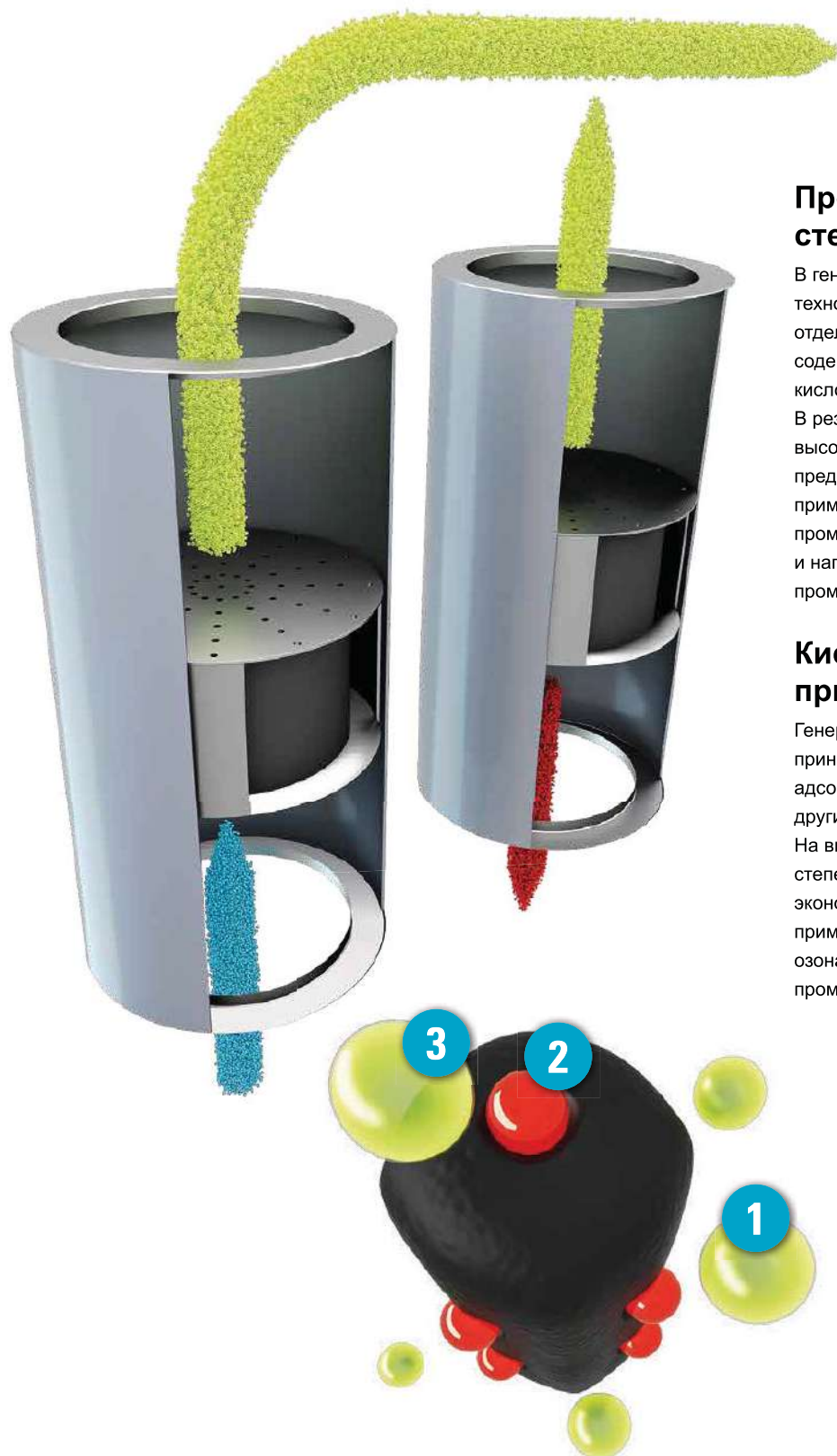
Сжатый воздух с одной стороны модуля мембраны поступает в центр волокна и контактирует с мембраной по мере прохождения через неё. Кислород, пары воды и другие газы легко проникают сквозь поры волокна мембраны и выводятся через специальное отверстие, а азот удерживается внутри мембраны и выходит через выходное отверстие. Поскольку пары воды также проникают сквозь поры волокна мембраны, азот осушается и имеет точку росы  $-40^{\circ}\text{C}$ .





# ТЕХНОЛОГИЯ PSA: НАДЁЖНАЯ И ПРОВЕРЕННАЯ

Генераторы азота NGP/NGP<sup>+</sup> и генераторы кислорода OGP с технологией короткоциклового адсорбции (PSA) от компании «Атлас Копко» обеспечивают постоянный поток азота и кислорода с необходимым уровнем чистоты.










## Производство азота высокой степени чистоты до 99.999%

В генераторах азота NGP/NGP<sup>+</sup> используется технология короткоциклового адсорбции для отделения молекул азота от других молекул, содержащихся в сжатом воздухе. Адсорбируются кислород, углекислый газ, пары воды и другие газы. В результате на выходе установки получается азот высокой степени чистоты. Серия NGP/NGP<sup>+</sup> представляет собой экономичный источник азота, применяемый в различных отраслях промышленности: производство пищевых продуктов и напитков, металлообработка, электронная промышленность и прочие.

## Кислород для ваших применений

Генератор кислорода OGP работает по тому же принципу, используя технологию короткоциклового адсорбции для отделения молекул кислорода от других молекул, содержащихся в сжатом воздухе. На выходе установки получается кислород высокой степени чистоты. Серия OGP представляет собой экономичный источник кислорода, который применяется в очистке сточных вод, производстве озона, здравоохранении и стекольной промышленности.

-  Чистый и сухой сжатый воздух (под давлением)
  -  Газообразный азот (под давлением)
  -  Выход кислорода (не под давлением)
  -  Адсорбент
- 
-  1 Адсорбент
  -  2 Молекулы азота (или кислорода), оставшиеся в адсорбенте
  -  3 Отфильтрованные молекулы азота (или кислорода)

# КОМПЛЕКСНЫЕ РЕШЕНИЯ ОТ «АТЛАС КОПКО»

За счёт широкого выбора генераторов кислорода и азота компания «Атлас Копко» может предложить вам подходящий вариант производства азота и кислорода в соответствии с индивидуальными требованиями, оптимизируя производственный процесс.

## Уникальное предложение

Для производства азота и кислорода на месте необходимо наиболее надёжные и эффективные компрессорные решения. Благодаря богатому опыту «Атлас Копко» десятилетиями занимает лидирующее положение на рынке технологий сжатого воздуха. «Атлас Копко» представляет вам экспертные знания мирового уровня в виде уникального предложения: от передовых компрессоров и решений для получения качественного воздуха, полного ассортимента генераторов азота и кислорода до сервисного обслуживания и финансовых услуг.



Типовая установка: компрессор с встроенным осушителем, фильтр грубой очистки UD\*, фильтр с активированным углём QDT, пылевой фильтр, ресивер, азотный генератор NGP с технологией PSA, ресивер.

## Безмасляные компрессоры

Компания «Атлас Копко» является новатором в разработке технологий для подготовки безмасляного воздуха. Результатом этого стал полный ассортимент компрессоров, обеспечивающих подачу 100% безмасляного и чистого воздуха для защиты мембран и адсорбента в азотных генераторах. Дополнительная фильтрация не требуется, что гарантирует минимальное падение давления.



## Маслосмазываемые компрессоры

На производственной площадке маслосмазываемые компрессоры компании «Атлас Копко» гарантируют надёжную подачу сжатого воздуха непосредственно на место его использования. Компрессоры компании «Атлас Копко» предназначены для работы в тяжёлых условиях и обеспечивают бесперебойность и надёжность вашего производственного процесса. Это очень экономичное решение в сочетании с азотными и кислородными генераторами.

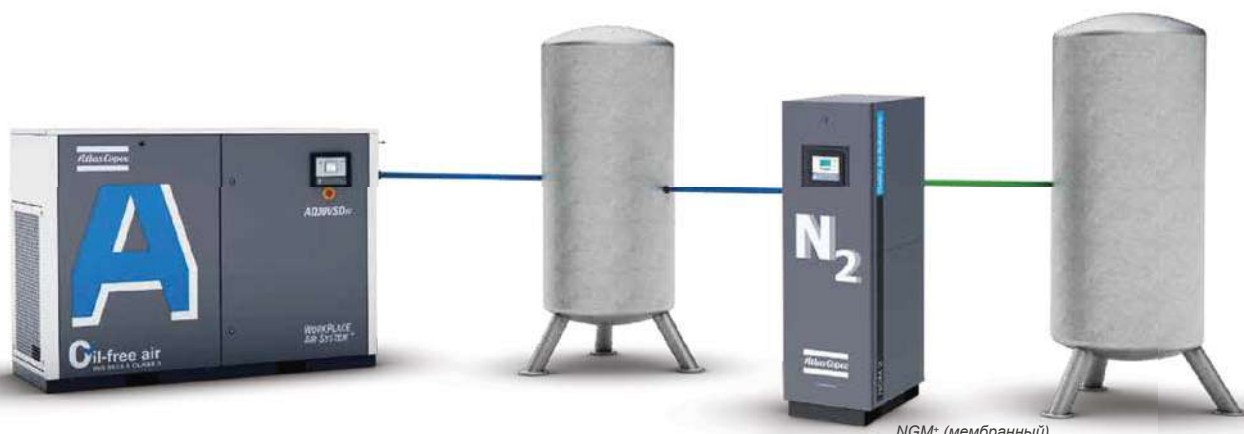


NGP\* (PSA)



## Подготовка воздуха

Компания «Атлас Копко» разработала и усовершенствовала технологии сжатия и осушения воздуха. Независимо от установки, области применения и требований к качеству компания «Атлас Копко» способна предложить подходящее решение по подготовке воздуха: осушители (адсорбционные, рефрижераторные холодильные и мембранные) и фильтры (коалесцирующие, тонкой очистки и с активированным углём).



NGM\* (мембранный)

Типовая установка: компрессор с встроенным осушителем, ресивер, азотный генератор NGM\*, ресивер.



# ГЕНЕРАТОРЫ АЗОТА МЕМБРАННОГО ТИПА (NGM, NGM+)

За счёт применения мембранной технологии генераторы азота от «Атлас Копко» достаточно легко адаптировать к конкретному применению. При низких расходах на эксплуатацию они отличаются превосходными показателями окупаемости инвестиций.

## Простота эксплуатации

- Достаточно только обеспечить подачу сухого сжатого воздуха.
- Нет необходимости в вызове специалиста для установки и ввода в эксплуатацию.
- Оснащены фильтром грубой очистки и измерителем расхода азота для точного системного контроля при любых условиях.

## Снижение затрат

- Низкие расходы на эксплуатацию.
- Отсутствие дополнительных затрат на обработку заказа жидкого или газообразного азота, дозаправки и доставку.
- Незначительные расходы на техническое обслуживание.

## Исключительное удобство

- Постоянная готовность к работе (круглосуточно, 7 дней в неделю).
- Исключается риск остановки производства из-за дефицита газа.

## Необходимая чистота

- Подача азота согласно вашим потребностям: содержание кислорода от 5% до 0.5%.
- Очень простая настройка для других уровней чистоты.

## «Всё в одном»

- Интегрированный блок фильтров грубой и тонкой очистки.
- Датчик кислорода в стандартной комплектации.

## Высокая производительность

Идеально подходит для применения в системах пожаротушения, накачивания шин, в нефтегазовой отрасли, на морских судах, при упаковке и многих других отраслях.

## Долгий срок службы

- Без износа.
- Без нагревателя.
- Стабильная (неизменная) эффективность в течение длительного времени.



# ГЕНЕРАТОРЫ АЗОТА И КИСЛОРОДА С ТЕХНОЛОГИЕЙ PSA (NGP, NGP<sup>+</sup>, OGP)

Азотные и кислородные генераторы серии NGP, NGP<sup>+</sup> и OGP от «Атлас Копко» просты в установке и в работе. Они обеспечивают необходимую чистоту при высокой производительности, что позволяет использовать их в большом количестве областей применения.

## Высокая производительность

Широкий ассортимент продукции и производительность газа более 2,000 Нм³/ч (NGP/NGP<sup>+</sup>) делают эти генераторы идеальным решением для различных областей применения с высокими требованиями к оборудованию.



## Готовность к эксплуатации

- Достаточно только обеспечить подачу осушенного сжатого воздуха.
- Технология "Подключи и работай".
- Нет необходимости в вызове специалиста для установки и ввода в эксплуатацию.
- Полная автоматизация и контроль, датчик остаточного содержания кислорода входит в стандартную комплектацию.
- Удобство в обслуживании.



## Необходимая чистота

- NGP/NGP<sup>+</sup>: чистота азота от 95% до 99.999%.
- OGP: чистота кислорода от 90% до 95%.

## Исключительное удобство

- Надёжная конструкция.
- Постоянная готовность к работе (круглосуточно, 7 дней в неделю).
- Исключается риск остановки производства из-за дефицита газа.

## Снижение затрат

- Низкие расходы на эксплуатацию.
- Отсутствие дополнительных затрат на обработку заказа жидкого или газообразного азота, дозаправки и доставку.
- Незначительные расходы на техническое обслуживание.

# НОВОЕ ПОКОЛЕНИЕ ГЕНЕРАТОРОВ АЗОТА NGP<sup>+</sup>



1

## Контроль качества подаваемого воздуха с автоматическими защитными функциями

- Температура.
- Давление.
- Точка росы под давлением.
- Автоматическое стравливание воздуха в случае загрязнения. (отклонений от требуемых параметров)

2

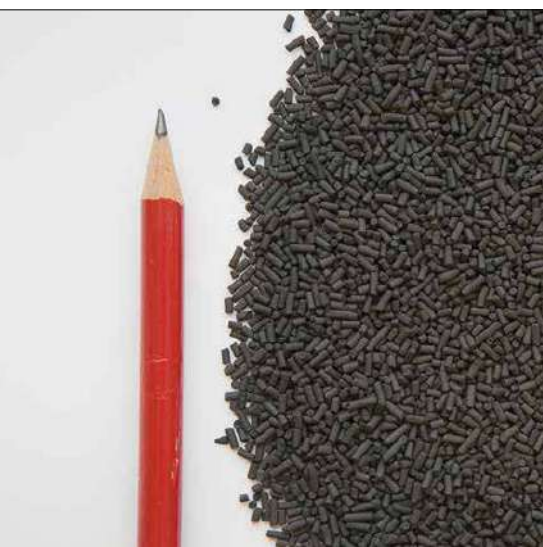
## Исключительная энергоэффективность

Коэффициент воздух/азот от 1,8 (при 95% N<sub>2</sub>) до 5,5 (при 99,999% N<sub>2</sub>).

3

## Автоматический запуск

- Клапан минимального давления и байпасное сопло для быстрого запуска.
- Исключается риск избыточного потока и повреждения угольного молекулярного сита.



4

## Угольное молекулярное сито (УМС) высочайшего качества

- Высокая плотность адсорбента.
- Компактная подпружиненная загрузка.
- Выравнивание давления азота сверху и снизу колонны.
- Защита обеспечивается специальным датчиком давления.







9

## Наиболее полная комплектация поставки

- Расходомер азота в стандартной комплектации.
- Датчик кислорода циркониевого типа с длительным сроком службы.
- Редукционный клапан давления азота на выходе из генератора.



8

## Автоматическая регулировка и постоянный уровень чистоты

- Автоматическая регулировка под заданное давление и чистоту азота.
- Максимально простое изменение уровня чистоты азота.
- Сброс некондиционного азота.



7

## Управление и мониторинг

- Удалённый запуск-останов.
- Modbus, Profibus и Ethernet.
- SMARTLINK.

6

## Повышение давления обратным потоком

- В фазе повышения давления в колонне генератора вместо воздуха используется азот.
- Угольное молекулярное сито не загрязняется кислородом перед началом фазы адсорбции.

5

## Максимальная экономия энергии

- В случае отсутствия потребления азота включается режим ожидания.
- Алгоритм управления продолжительностью цикла:
  - увеличение продолжительности цикла при низком потреблении азота
  - снижение потребления воздуха при низком потреблении азота.

# КОМПЛЕКСНАЯ СИСТЕМА ПРОИЗВОДСТВА АЗОТА ПОД ВЫСОКИМ ДАВЛЕНИЕМ

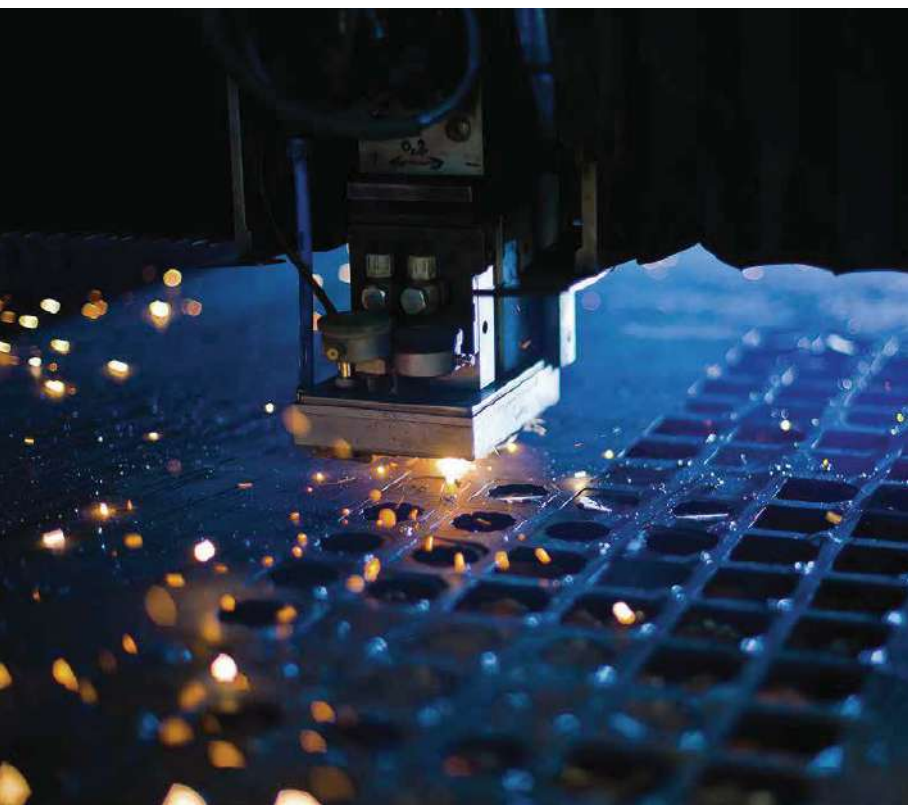
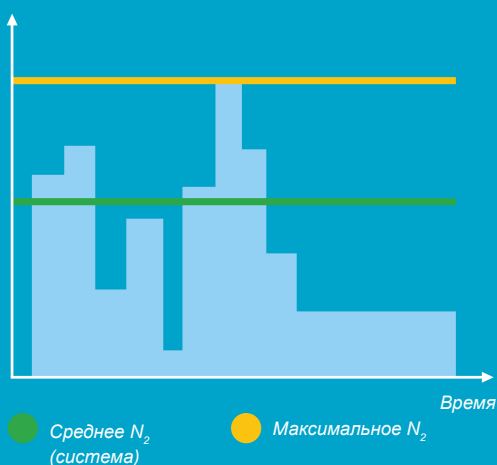
Комплексная система производства азота под высоким давлением — новейшее дополнение линейки оборудования, специально разработанного компанией «Атлас Копко». Это настоящая альтернатива решениям с поставкой жидкого азота или газа в баллонах. Наша уникальная система производства азота действительно выделяется среди других благодаря малой занимаемой площади, простому монтажу, высокой надёжности и максимальной энергоэффективности.



## Идеальное решение при переменном потреблении азота

Инновационная азотная система позволит вам хранить азот в ресиверах на 40 бар или баллонах на 300 бар. Таким образом вы можете распоряжаться азотом согласно вашему среднему уровню потребления вместо максимального потребления при любых условиях. Это снижает уровень первоначальных инвестиций и значительно сокращает затраты на эксплуатацию.

Потребление азота



## Лазерная резка и литье пластмассы под давлением

Новая комплексная система производства азота поможет во многих областях применения, но в первую очередь она предназначена для использования в лазерной резке и литье под давлением. При применении азота в качестве газа для резки лазерный луч плавит материал, а азот выдувает расплавленный материал из разреза.

# ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ СЕРИИ NGM

МОДЕЛЬ	Чистота азота				Габаритные размеры (ширина x длина x высота)	Вес
		95%	96%	97%	мм	кг
NGM 1	Производительность азота, Нм³/ч	11.9	9.7	7.6	820 x 772 x 2090	259
	Показатель производительности азота	2.6	3	3.5		
NGM 2	Производительность азота, Нм³/ч	24.1	19.4	15.1	820 x 772 x 2090	268
	Показатель производительности азота	2.6	3	3.5		
NGM 3	Производительность азота, Нм³/ч	42.1	34.6	27.4	820 x 772 x 2090	285
	Показатель производительности азота	2.6	3	3.5		
NGM 4	Производительность азота, Нм³/ч	83.9	69.5	54.7	820 x 1470 x 2090	445
	Показатель производительности азота	2.6	3	3.5		
NGM 5	Производительность азота, Нм³/ч	126.0	104.0	82.1	820 x 1470 x 2090	497
	Показатель производительности азота	2.6	3	3.5		
NGM 6	Производительность азота, Нм³/ч	168.1	138.6	109.1	820 x 1470 x 2090	535
	Показатель производительности азота	2.6	3	3.5		
NGM 7	Производительность азота, Нм³/ч	209.9	173.2	136.4	820 x 1470 x 2090	571
	Показатель производительности азота	2.6	3	3.5		

# ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ СЕРИИ NGM+

МОДЕЛЬ	Чистота азота				Габаритные размеры (ширина x длина x высота)	Вес
		95%	97%	99%	мм	кг
NGM 1+	Производительность азота, Нм³/ч	24.3	16.5	8.5	820 x 772 x 2090	259
	Показатель производительности азота	2.2	2.7	4.2		
NGM 2+	Производительность азота, Нм³/ч	48.6	33.0	17.0	820 x 772 x 2090	268
	Показатель производительности азота	2.2	2.7	4.2		
NGM 3+	Производительность азота, Нм³/ч	72.9	49.5	25.5	820 x 772 x 2090	285
	Показатель производительности азота	2.2	2.7	4.2		
NGM 4+	Производительность азота, Нм³/ч	97.2	66.0	34.0	820 x 1470 x 2090	445
	Показатель производительности азота	2.2	2.7	4.2		
NGM 5+	Производительность азота, Нм³/ч	145.8	99.0	51.0	820 x 1470 x 2090	497
	Показатель производительности азота	2.2	2.7	4.2		
NGM 6+	Производительность азота, Нм³/ч	194.4	132.0	68.0	820 x 1470 x 2090	535
	Показатель производительности азота	2.2	2.7	4.2		
NGM 7+	Производительность азота, Нм³/ч	243.0	165.0	85.0	820 x 1470 x 2090	571
	Показатель производительности азота	2.2	2.7	4.2		

**FND: Производительность азота**  
**Стандартные условия**  
Эффективное давление сжатого воздуха на входе: 8 бар.  
Давление азота на выходе: 6,5 бар.  
Температура окружающей среды: 20°C.  
Точка росы сжатого воздуха на входе: 3°C.  
Точка росы азота на выходе: -40°C.  
Качество воздуха на входе в генератор по классу 1.4.1 согласно ISO 8573-1:2010.  
Минимальные требования: рефрижераторный осушитель для предварительной обработки воздуха на входе.  
Стандартное качество азота по классу 1.2.1 согласно ISO 8573-1:2010.

**Ограничения по эксплуатации**  
Минимальная температура окружающей среды: 5°C.  
Максимальная температура окружающей среды: 50°C.  
Максимальное давление сжатого воздуха на входе: 13 бар.





# ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ СЕРИИ NGP

МОДЕЛЬ	Чистота азота FND (Производительность азота)										Габаритные размеры (ширина x длина x высота)	Вес
		95%	97%	98%	99%	99.50%	99.90%	99.95%	99.99%	99.999%	мм	кг
NGP 10	Производительность азота Нм³/ч	22.3	17.4	14.6	11.3	5.4	5.9	4.4	3.1	1.7	798 x 840 x 2022	244
NGP 12	Производительность азота, Нм³/ч	28.8	22.4	18.8	14.5	11.7	7.6	5.7	3.9	2.2	798 x 840 x 2022	257
NGP 15	Производительность азота, Нм³/ч	35.2	27.4	23.0	17.7	14.3	9.3	7.0	4.8	2.7	798 x 840 x 2022	270
NGP 20	Производительность азота, Нм³/ч	44.7	34.9	29.3	22.5	18.2	11.8	8.9	6.1	3.4	798 x 840 x 2022	306
NGP 25	Производительность азота, Нм³/ч	57.5	44.9	37.6	29.0	23.4	15.2	11.4	7.9	4.4	798 x 840 x 2022	339
NGP 30	Производительность азота, Нм³/ч	70.3	54.9	46.0	35.5	28.6	18.6	14.0	9.7	5.3	798 x 840 x 2022	360
NGP 35	Производительность азота, Нм³/ч	86.3	67.3	56.5	43.5	35.1	22.8	17.1	12.4	7.1	798 x 840 x 2022	559
NGP 40	Производительность азота, Нм³/ч	105.5	82.3	69.1	53.2	42.9	27.9	20.9	15.2	8.7	798 x 840 x 2022	627
NGP 50	Производительность азота, Нм³/ч	115.0	89.7	75.3	58.0	46.8	30.4	22.8	16.5	9.5	798 x 840 x 2022	663
NGP 60	Производительность азота, Нм³/ч	140.7	109.8	92.1	70.9	57.2	37.2	27.9	20.2	11.6	798 x 840 x 2022	716
NGP 70	Производительность азота, Нм³/ч	159.7	121.2	102.7	87.0	70.2	45.6	32.5	23.1	14.2	798 x 840 x 2022	805
NGP 85	Производительность азота, Нм³/ч	-	148.3	125.6	106.4	85.8	55.8	39.8	28.3	17.4	798 x 840 x 2022	1018
NGP 100	Производительность азота, Нм³/ч	-	-	138.1	108.8	91.2	59.1	46.5	34.0	20.5	798 x 840 x 2022	1191
NGP 115	Производительность азота, Нм³/ч	-	-	-	126.5	104.2	64.7	53.0	37.7	23.3	798 x 840 x 2022	1191
NGP 185	Производительность азота, Нм³/ч	406.9	325.6	284.9	221.8	188.2	132.3	136.3	69.2	30.5	1000 x 1765 x 2530	2150
NGP 250	Производительность азота, Нм³/ч	579.9	457.8	367.3	310.3	254.3	173.0	155.7	86.5	36.6	1000 x 1965 x 2970	3200

# ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ СЕРИИ NGP+

МОДЕЛЬ	Чистота азота FND (Производительность азота)										Габаритные размеры (ширина x длина x высота)	Вес
		95%	97%	98%	99%	99.50%	99.90%	99.95%	99.99%	99.999%	мм	кг
NGP 8+	Производительность азота, Нм³/ч	17.7	13.6	11.7	9.4	7.9	5.5	4.1	3.0	1.7	775 x 840 x 2015	264
	Показатель производительности азота	1.86	2.02	2.13	2.36	2.59	3.19	3.51	4.33	6.3		
NGP 10+	Производительность азота, Нм³/ч	22.8	17.6	15.0	12.1	10.1	7.1	5.3	3.9	2.2	775 x 840 x 2015	277
	Показатель производительности азота	1.86	2.02	2.13	2.36	2.59	3.19	3.51	4.33	6.3		
NGP 12+	Производительность азота, Нм³/ч	27.8	21.5	18.4	14.7	12.4	8.7	6.5	4.7	2.7	775 x 840 x 2015	290
	Показатель производительности азота	1.86	2.02	2.13	2.36	2.59	3.19	3.51	4.33	6.3		
NGP 15+	Производительность азота, Нм³/ч	35.4	27.3	23.4	18.7	15.7	11.0	8.3	6.0	3.5	775 x 840 x 2015	326
	Показатель производительности азота	1.86	2.02	2.13	2.36	2.59	3.19	3.51	4.33	6.3		
NGP 20+	Производительность азота, Нм³/ч	45.5	35.1	30.1	24.1	20.2	14.2	10.7	7.7	4.5	775 x 840 x 2015	359
	Показатель производительности азота	1.86	2.02	2.13	2.36	2.59	3.19	3.51	4.33	6.3		
NGP 25+	Производительность азота, Нм³/ч	55.7	43.0	36.8	29.5	24.7	17.3	13.0	9.4	11.8	775 x 840 x 2015	380
	Показатель производительности азота	1.86	2.02	2.13	2.36	2.59	3.19	3.51	4.33	6.3		
NGP 30+	Производительность азота, Нм³/ч	68.3	52.7	45.1	36.2	30.3	21.3	16.0	11.8	7.7	1400 x 840 x 2015	619
	Показатель производительности азота	1.86	2.02	2.13	2.36	2.59	3.19	3.51	4.33	5.57		
NGP 35+	Производительность азота, Нм³/ч	83.5	64.5	55.2	44.2	37.1	26.0	19.6	14.4	9.4	1400 x 840 x 2015	647
	Показатель производительности азота	1.86	2.02	2.13	2.36	2.59	3.19	3.51	4.33	5.57		
NGP 40+	Производительность азота, Нм³/ч	91.0	70.3	60.2	48.2	40.5	28.4	21.3	15.7	10.3	1400 x 840 x 2015	683
	Показатель производительности азота	1.86	2.02	2.13	2.36	2.59	3.19	3.51	4.33	5.57		
NGP 50+	Производительность азота, Нм³/ч	111.3	85.9	73.6	59.0	49.5	34.7	26.1	19.2	12.6	1400 x 840 x 2015	736
	Показатель производительности азота	1.86	2.02	2.13	2.36	2.59	3.19	3.51	4.33	5.57		
NGP 60+	Производительность азота, Нм³/ч	125.2	96.5	83.5	66.1	55.8	39.6	32.0	23.6	15.4	1400 x 970 x 2015	865
	Показатель производительности азота	1.89	2.08	2.21	2.43	2.66	3.33	3.51	4.33	5.57		
NGP 70+	Производительность азота, Нм³/ч	153.1	118.0	102.1	80.9	68.3	48.4	39.1	28.8	18.9	1400 x 970 x 2015	1038
	Показатель производительности азота	1.89	2.1	2.21	2.43	2.66	3.33	3.51	4.33	5.57		
NGP 85+	Производительность азота, Нм³/ч	-	149.5	118.9	96.8	84.8	60.1	47.3	35.3	22.1	1400 x 970 x 2015	1211
	Показатель производительности азота	-	2.04	2.15	2.45	2.60	3.18	3.26	3.94	5.46		
NGP 100+	Производительность азота, Нм³/ч	-	157.3	136.1	107.8	91.0	64.5	52.1	38.4	25.2	1400 x 970 x 2015	1211
	Показатель производительности азота	-	2.08	2.21	2.43	2.66	3.33	3.51	4.33	5.57		

# ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ СЕРИИ OGP

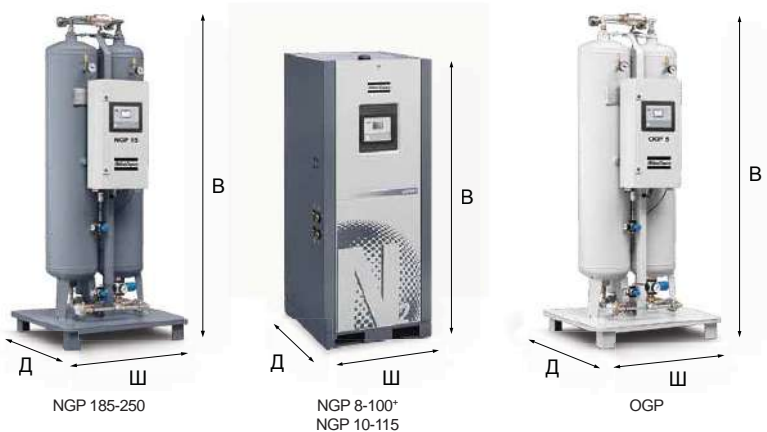
МОДЕЛЬ	Чистота FOD (Производительность кислорода)				Габаритные размеры (ширина x длина x высота)	Вес
		90%	93%	95%	мм	кг
OGP 2	Производительность азота Нм³/ч	2.1	1.6	1.5	600 x 600 x 1550	100
OGP 3	Производительность азота Нм³/ч	3.2	2.5	2.5	600 x 600 x 1600	150
OGP 4	Производительность азота Нм³/ч	4.0	3.6	3.2	600 x 600 x 1650	180
OGP 5	Производительность азота Нм³/ч	4.7	4.3	4.0	700 x 700 x 1900	230
OGP 6	Производительность азота Нм³/ч	6.5	5.8	5.4	800 x 900 x 1750	400
OGP 8	Производительность азота Нм³/ч	7.9	7.2	6.8	800 x 900 x 1750	700
OGP 10	Производительность азота Нм³/ч	9.7	9.0	8.3	900 x 1200 x 2100	950
OGP 14	Производительность азота Нм³/ч	14.4	13.3	12.2	900 x 1200 x 2100	950
OGP 18	Производительность азота Нм³/ч	15.5	18.4	18.4	900 x 1300 x 2400	1150
OGP 20	Производительность азота Нм³/ч	20.5	19.4	18.4	1000 x 1300 x 2400	1150
OGP 23	Производительность азота Нм³/ч	23.4	21.2	20.5	1000 x 1300 x 3200	1350
OGP 29	Производительность азота Нм³/ч	29.2	27.7	26.3	1000 x 2000 x 2500	1850
OGP 35	Производительность азота Нм³/ч	35.3	33.1	31.7	1000 x 2000 x 2500	2150
OGP 45	Производительность азота Нм³/ч	45.4	42.8	39.2	1000 x 2000 x 3400	3500
OGP 55	Производительность азота Нм³/ч	55.8	51.8	49.0	1000 x 2000 x 3400	3500
OGP 65	Производительность азота Нм³/ч	66.2	64.1	56.9	1000 x 2000 x 3400	3500
OGP 84	Производительность азота Нм³/ч	85.3	79.2	74.2	2400 x 2200 x 3200	4200
OGP 105	Производительность азота Нм³/ч	106.9	101.9	93.6	2400 x 2400 x 3300	4900
OGP 160	Производительность азота Нм³/ч	157.7	154.8	143.6	4000 x 4000 x 3200	8000
OGP 200	Производительность азота Нм³/ч	203.8	188.3	175.0	4000 x 4000 x 3300	9400

**FND: Производительность азота**  
**Стандартные условия**  
Эффективное давление сжатого воздуха на входе: 7,5 бар для NGP, 7 бар для NGP\*.  
Давление азота на выходе: 6 бар.  
Температура окружающей среды: 20°C.  
Точка росы сжатого воздуха на входе: 3°C.  
Точка росы азота на выходе: -50°C.  
Качество воздуха на входе в генератор по классу 1.4.1 согласно ISO 8573-1:2010  
Минимальные требования: рефрижераторный осушитель для предварительной обработки воздуха на входе.  
Стандартное качество азота по классу 1.2.1 согласно ISO 8573-1:2010.

**Ограничения по эксплуатации**  
Минимальная температура окружающей среды: 5°C.  
Максимальная температура окружающей среды: 45°C для NGP, 60°C для NGP\*.  
Максимальное давление сжатого воздуха на входе: 10 бар для NGP, 13 бар для NGP\*.

**FOD: Производительность кислорода**  
**Стандартные условия**  
Эффективное давление сжатого воздуха на входе: 7,5 бар.  
Давление кислорода на выходе: 5 бар.  
Температура окружающей среды: 20°C.  
Точка росы сжатого воздуха на входе: 3°C.  
Точка росы кислорода на выходе: -50°C.  
Качество воздуха на входе в генератор по классу 1.4.1 согласно ISO 8573-1:2010  
Минимальные требования: рефрижераторный осушитель для предварительной обработки воздуха на входе.  
Стандартное качество кислорода по классу 1.2.1 согласно ISO 8573-1:2010.

**Ограничения по эксплуатации**  
Минимальная температура окружающей среды: 5°C.  
Максимальная температура окружающей среды: 45°C.  
Максимальное давление сжатого воздуха на входе: 10 бар.





[www.atlascopco.kz](http://www.atlascopco.kz)



# Medical Oxygen Plant

**Atlas Copco's Medical Oxygen Plant offer a cost-effective means for on-site gas generation. Thanks to PSA technology, you can generate your own, on-site oxygen of the highest purity compliant with medical standards.**



Medical oxygen is an irreplaceable requirement for many basic medical procedures and treatments, and an invaluable adjunct to many other treatments. It is one of the drugs medical facilities cannot be without.

Cylinder Oxygen is bulky, which makes transportation difficult and even dangerous. Oxygen in liquid form is both voluminous and has very limited storage life.

A solution of these inconveniences is to produce oxygen on site using Atlas Copco's new Medical Oxygen Plant (Oxyplant).

- **Medical Oxygen Plant**

- Key Features & Customer Benefits**

- Consisting of two independent oxygen generation lines, bank of cylinders and high pressure booster
  - Plant setup according to ISO10083
  - Oxygen quality according to European Pharmacopeia Oxygen 93%
  - Modules are individually controlled and monitored for simplex or duplex PSA arrangements.
  - Full electronic controls display output and all control parameters.
  - Standard installed oxygen analyzers continuously monitor oxygen quality giving you peace of mind.

- Oxygen Standards**

Atlas Copco Medical Oxygen Plant is able to produce oxygen compliant with the European Pharmacopeia (EurPh) monograph for Oxygen 93 or the United States Pharmacopeia (USP) monograph for Oxygen 93. Both standards were created explicitly to permit the use of PSA produced oxygen.

Parameters	Eur Ph Oxygen 93%	ISO10083	USP Oxygen 93%	Laboratory Assay of Oxyplant
Oxygen	93.0% ± 3	>90%	>90.0 < 96.0%	90-95%
Carbon monoxide	5 ppm	5 ppm	0.001 %	0,11 ppm
Carbon dioxide	300 ppm	300 ppm	0.03 %	0,82 ppm
Water	67 ppm	67 ppm	N/S	3 ppm

The Atlas Copco logo is displayed in white script font within a blue rectangular box in the top right corner of the image.

Atlas Copco

The Atlas Copco logo is displayed in white script font on the side of a large grey industrial unit on the left side of the image.

Atlas Copco

A technical line drawing of a refrigerant air dryer is overlaid on a blue triangular graphic in the bottom left corner. The drawing includes various dimensions and labels such as '1-30 (14-3)', 'C.C (1:3)', 'Ø72', 'Ø72.5', 'Ø72', '10.5', '30.8', '10.5', '11.8', and 'Ø72'.

# Refrigerant air dryers

FD VSD 100-300, FD 5-95 and FX 5-300  
(5-300 l/s/11-636 cfm)

## Why dry your compressed air?

Compressed air contains oil, solid particles and water vapors. It is the inherent result of the compression process, which concentrates the natural water vapors and particles in the air that surrounds us. This untreated compressed air poses a substantial risk to your air system and end products. Its moisture content alone can cause corrosion in pipe work, premature failure of pneumatic equipment, product spoilage and more. An air dryer is therefore essential to protect your systems and processes.

## Refrigerant dryers by Atlas Copco

Atlas Copco's refrigerant dryers provide the clean, dry air you need to expand the life of your equipment and ensure the quality of your products. Our FD and FX dryers are designed in-house and tested using the most stringent methods. They meet or exceed the international standards for compressed air purity and are tested according to ISO 7183:2007.



### FX 5-300

#### Quality Performance

- Available in 16 sizes from 6 to 300 l/s/15 to 636 cfm.
- Pressure dew point as low as +3°C/+37.4°F.
- Electronic no-loss drain with safety function.
- Controller with pressure dew point display.
- Easy installation.
- Minimal maintenance.

### FD 5-95

#### First-Rate Efficiency

- Available in 11 sizes from 6 to 95 l/s/13 to 201 cfm.
- Pressure dew point as low as +3°C/+37.4°F.
- Electronic no loss drain with safety function.
- Controller with pressure dew point display, energy saving option, alarm contacts, ...
- Quiet operation.
- Constant purity class -;4- according ISO 8573-1:2010.

### FD VSD 100-300

#### Unrivalled Energy Savings

- Available in 6 sizes from 100 to 300 l/s/212 to 636 cfm.
- Supreme energy savings: up to 50% on indirect energy costs and up to 70% on direct energy costs.
- Low pressure drop, typically below 0.2 bar/2.9 psi.
- Pressure dew point as low as +3°C/+37.4°F.
- Advanced touchscreen controller: visualization, alarm history, remote control,...
- All-in-one design with very small footprint.
- Delivered ready for use.
- Quiet operation.
- Constant purity class -;4;- according ISO 8573-1:2010.



#### Extending your VSD energy savings to your quality air

The introduction of Atlas Copco's VSD (and later VSD+) compressor technology was an industry milestone. By automatically adjusting its motor speed as air demand fluctuates depending on production flow or time, a VSD compressor offers double digit reductions in energy use and in lifecycle costs. With the FD VSD, Atlas Copco is extending this energy-saving principle to your quality air equipment.



# FD VSD 100-300: Unrivalled Energy Savings



1

## VSD inverter

Controls the speed of the compressor to match your air demand and ensure the highest possible energy savings.

2

## High-efficiency heat exchanger

Counter-flow compact brazed plate or aluminum heat exchanger, with air-to-air side for optimum cooling efficiency and the lowest possible pressure drop.

3

## Integrated water separator

Low velocity with high separation efficiency, even in low flow conditions.

4

## Electronic no-loss condensate drain

Opens the drain only when needed to eliminate unnecessary loss of compressed air during timed draining.

5

## Elektronikon® Touch controller

Provides advanced control and allows for remote monitoring.

6

## Single electrical connection

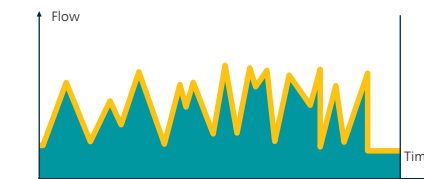
Ensures plug-and-play installation.



## VSD for superior energy savings

Atlas Copco's in-house developed VSD technology matches your FD dryer's power consumption to your production's actual air flow. While a traditional refrigerant dryer can only be turned on or off, Atlas Copco's FD VSD mirrors your production's demand for compressed air as it fluctuates during the day, week or year. This ensures supreme energy savings as well as a stable dew point.

VSD dryer



Fixed speed dryer



● Power consumption

## Minimal environmental impact

FD VSD dryers use the CFC-free R410A refrigerant, which has an ozone depletion potential (ODP) of zero. The refrigerant meets the strict F-Gas regulations and, due to its low power consumption, has an outstanding TEWI (Total Equivalent Warming Impact) performance.

## Optimum performance and safety in all conditions

- Hot gas bypass valve prevents freezing at lower loads.
- The extremely reliable R410A rotary compressor provides the best performance with minimum environmental impact. Capillary tubes cope with all conditions – no moving parts for extra reliability.
- Condenser with louvered fin technology for improved performance in dusty environments.

## Advanced remote monitoring and control

- High-tech Elektronikon® Touch controller with warning indications, dryer shutdown and maintenance scheduling.
- Standard SMARTLINK remote monitoring to maximize air system performance and energy savings.

## Robust and compact design

- Forklift opening for smooth transport.
- Easy front and side panel access.
- No bulky thermal mass heat exchanger needed to save on energy.

## Filters

If your production requires higher levels of air quality and filtration, UD+ filters can be added on to your FD VSD dryer.

# FD 5-95: First-Rate Efficiency



## 1 Low-noise compressor with liquid separator

Lasts longer thanks to limited vibrations, minimal moving parts, and reduced risk of leakage.

## 2 High-efficiency heat exchanger

Counter-flow compact brazed plate or aluminum heat exchanger, with air-to-air side for optimum cooling efficiency and the lowest possible pressure drop.

## 3 Integrated water separator

Low velocity with high separation efficiency even in low flow conditions.

## 4 Electronic no-loss condensate drain

With level sensor, backup manual drain and drain alarm.

## 5 Fan switch

Reduces energy consumption and optimizes the pressure dew point at very low temperatures.

## 6 Hot gas bypass valve

Ensures stable pressure dew point and prevents freezing at lower loads.

## 7 Refrigerant separator

Eliminates the chance of moisture entering the compressed air system.

## 8 Single electrical connection

Allows for plug-and-play installation.



## Supreme energy efficiency

- The FD offers a low pressure drop – typically below 0.2 bar/2.9 psi – and minimal energy consumption.
- The compact brazed plate or aluminum heat exchanger was designed specifically to provide optimal pre-cooling and the lowest possible pressure drop.
- The electronic no-loss condensate drain comes with a level sensor to open the drain only when needed, preventing unnecessary loss of compressed air.

## Comprehensive control and monitoring options

- The Elektronikon® Alpha controller displays the pressure dew point and relative humidity.
- Remote alarm and start/stop control through voltage-free contact.
- Additional features such as alarm history and standard remote visualization.

## Easy installation and long maintenance intervals

- Small footprint thanks to an innovative all-in-one design.
- Delivered ready for use, minimizing costly production downtime.

## Low environmental impact

FD dryers use CFC-free refrigerants (R134A and R410A) with an ozone depletion potential (ODP) of zero.

## Reliable performance in tough conditions

- Hot gas bypass valve prevents freezing at lower loads.
- R134A piston compressor with high coefficient of performance (extremely reliable R410A rotary compressor for models FD 60-FD 95) provides the best performance with minimum environmental impact. Capillary tubes cope with all conditions – no moving parts for extra reliability.
- Condenser with louvered fin technology for improved performance in dusty environments.



# FX 5-300: Quality Performance



1

## Refrigerant separator

No chance of moisture entering the compressed air system.

2

## Hot gas bypass

Ensures stable pressure dew point and eliminates the possibility of condensate freezing.

3

## Digital display

Provides peace of mind through precise monitoring of pressure dew point.



4

## Single electrical connection

Allows for plug-and-play installation.

6

## Water separator

Offers high efficiency for better pressure dew point.

7

## Compact design

For a small footprint.

5

## Easy access to key components

For straightforward servicing.

8

## Low-noise rotary compressor with integrated liquid separator

Lasts longer thanks to limited vibrations, minimal moving parts, and reduced risk of leakage.



## Pressure dew point precision

The FX comes in a wide range of sizes (6-300 l/s or 13 -636 cfm) to offer a steady pressure dew point as low as +3°C/+37.4°F. Its easy to use digital display precision-measures and monitors the pressure dew point and dryer performance.

## Digital display

- Pressure dew point: exact measurement and visual monitoring.
- Status: refrigerant compressor and fan.
- Alarms: high/low pressure dew point and probe failure.
- Service warning.

## Reliable

Built according to the stringent Atlas Copco standards, the FX is made of high quality, generously sized components.

## Hot environments

High ambient temperatures can put your equipment to the test. The FX range offers several high temperature models that ensure dependable performance in conditions up to 46°C/115°F.

## Significant cost savings

- Increased reliability and lifetime of tools and equipment.
- Reduced pipe work leaks and thus a lower energy bill.
- Less equipment breakdowns and operational interruptions.
- Minimal chance of product damage as a result of moisture carryover.

## Sustainable refrigerant

The FX range comes with refrigerant that is compliant with F-Gas regulations to ensure the lowest possible carbon footprint and energy consumption.

# VSD: a game-changer in energy savings

When purchasing a refrigerant dryer, the main focus is usually on the initial cost. However, this only represents approximately 10% of the lifecycle cost of the dryer. Energy, maintenance and installation make up the bulk of your actual dryer costs. Direct and indirect (pressure drop) energy costs are the most important.



## Indirect energy costs

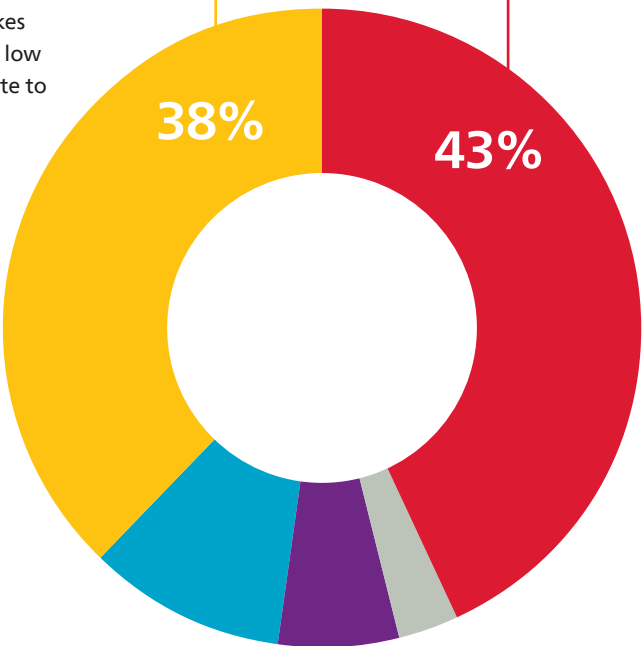
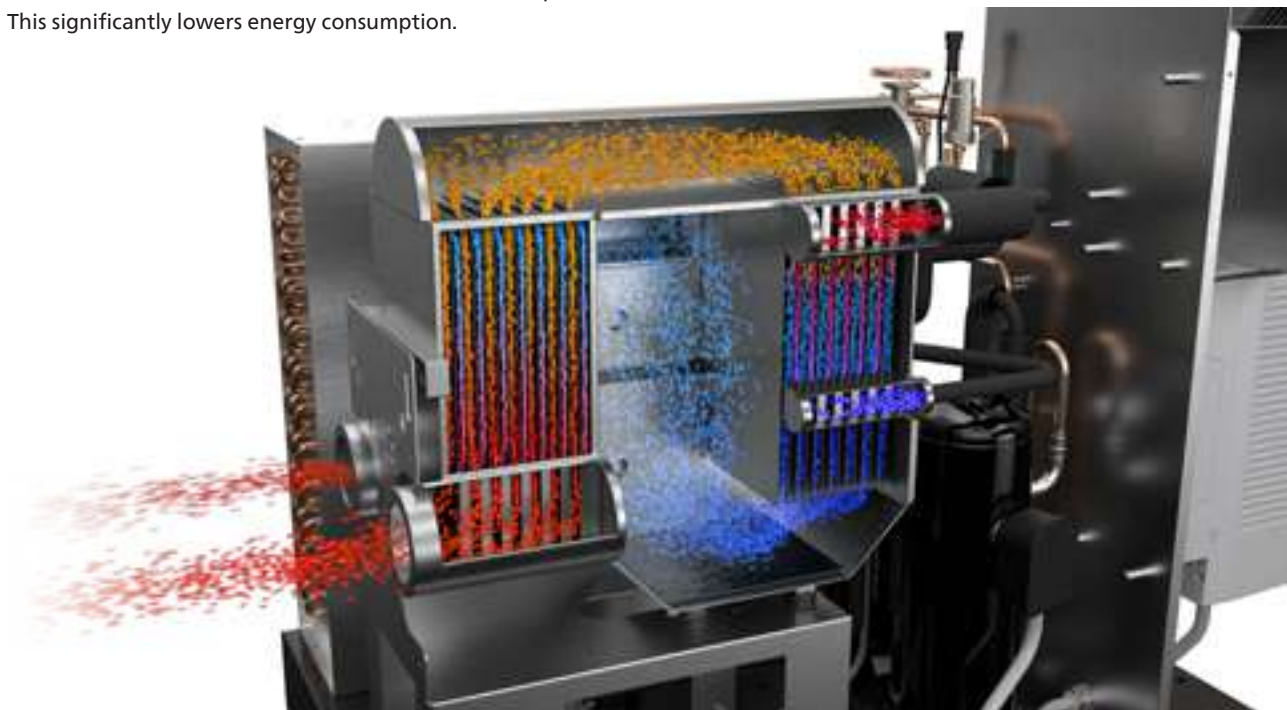
Indirect energy costs are related to the extra energy your air compressor must consume to overcome the pressure drop that takes place in the air dryer. By design, Atlas Copco FD VSD dryers offer a low pressure drop and efficient heat transfer – both of which contribute to a reduction of the indirect energy costs.

## Low pressure drop

If a refrigerant dryer has a high internal pressure drop, the compressor needs to run at a higher pressure. This wastes energy and increases operating costs. Atlas Copco has designed our refrigerant dryers to minimize pressure drop. A pressure drop typically below 0.2 bar/2.9 psi at full flow is ensured by the heat exchanger technology, an integrated low velocity water separator, and generously sized components.

## Efficient heat exchanger technology

Atlas Copco's refrigerant dryers use a counter flow heat exchanger on both the air-to-air and air-to-refrigerant side. Compared to a cross flow heat exchanger, the counter flow design results in a more efficient heat transfer and stable temperatures. This significantly lowers energy consumption.



## Lifecycle cost

- Direct energy costs
- Indirect energy costs
- Investment
- Maintenance
- Installation



## Direct energy costs

Direct energy costs are related to the power that the dryer consumes. Atlas Copco's FD VSD dryers match their energy usage to the actual compressed air demand. This reduces energy consumption by as much as 70% compared to conventional dryers.



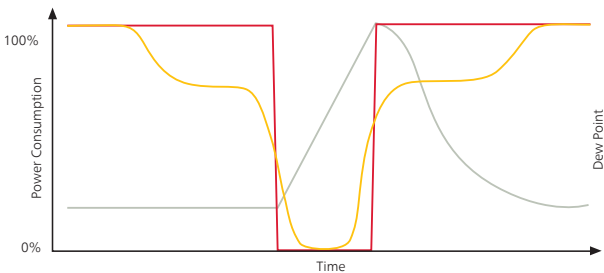
## Reduce your total lifecycle cost by up to 50% with Atlas Copco's VSD dryers

- Up to 50% savings on indirect energy costs
- Up to 70% savings on direct energy costs

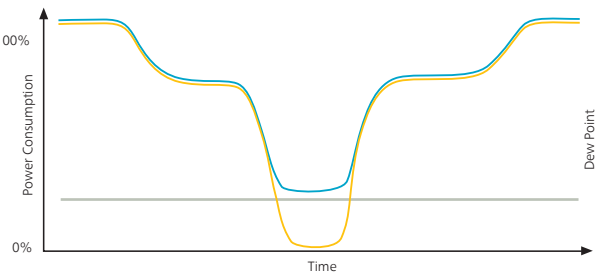
## VSD outperforms thermal mass technology

Many conventional dryers rely on thermal mass technology to reduce energy costs. Also called cycling dryers, these units come with thermal mass storage which can be used to dry the air with the dryer's compressor temporarily switched off. While thermal mass technology certainly generates energy savings, these are offset by the additional energy these dryers require to cool the thermal mass. In addition, as the refrigerant compressor's operation is controlled by the thermal mass, the compressed air dew point rises and falls significantly. This can compromise your air quality by up to 2 purity classes. Finally, thermal mass dryers offer only limited or no energy savings in environments with high ambient temperatures. VSD technology has proven to deliver superior results in terms of energy use, dew point stability and service costs.

## Thermal mass: some energy savings and unstable dew point



## VSD: superior energy savings and stable dew point



- Flow
- Power Consumption thermal mass
- Power Consumption VSD
- Dew point



## Advanced control

Atlas Copco's refrigerant dryers are built to reliably and efficiently deliver quality air. But in the end, it's all about how they perform on your work floor, meeting your individual needs and responding to your specific conditions. That is why the FD VSD, FD and FX come with comprehensive control options to allow you to get the best performance from your Atlas Copco dryer.



### FD VSD 100-300: Elektronikon® Touch controller

- 4.3-inch high-definition color display with clear pictograms and service indicator.
- Internet-based dryer visualization using a simple Ethernet connection.
- Automatic restart after voltage failure.
- Built-in SMARTLINK online monitoring.
- More flexibility: four different week schedules.
- Graphical service plan indication.
- Remote control and connectivity functions.

### FD 5-95: Elektronikon® Alpha controller

- Exact measurement and visual monitoring of pressure dew point and ambient temperature.
- High/low pressure dew point alarm.
- Relative humidity indicator.
- Energy saving mode.
- Switch off at freezing alarm.
- Alarm history and standard remote visualization.



### FX 5-300: Digital display

- Pressure dew point: exact measurement and visual monitoring.
- Energy saving mode.
- Alarms: high/low pressure dew point and probe failure.
- Service warnings.

## Remote monitoring



### SMARTLINK: Data Monitoring Program

SMARTLINK captures live data from your compressed air equipment and translates it in clear insights. At a glance, you can check uptime, energy efficiency and machine health.

- Remote monitoring that helps you optimize your compressed air system and save energy and costs.
- Provides a complete insight in your compressed air network.
- Anticipates potential problems by warning you upfront.
- Efficient service planning and parts handling to give you improved uptime.



### SMARTLINK & Total Responsibility

Get the most out of SMARTLINK as part of a Total Responsibility Plan. Step back, relax, and let our service engineers monitor your compressed air system. We know exactly when to service your machines, diagnose any issues and be there on time to fix them.

Technical specifications FD VSD 100-300

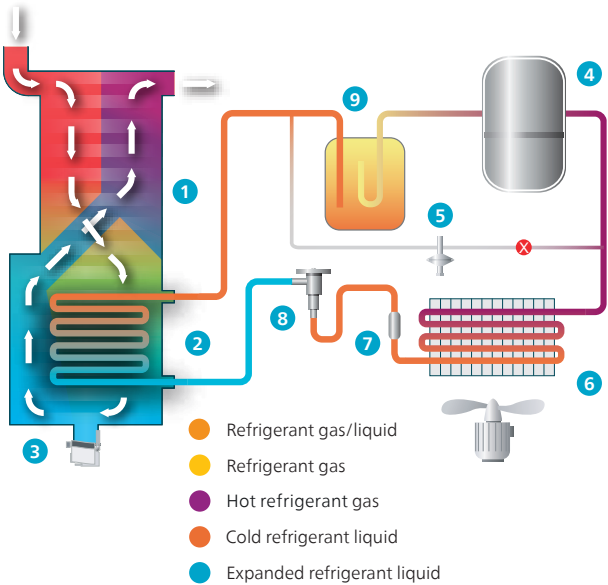
Model	Maximum inlet conditions at full flow (ambient/ inlet)	Inlet flow with a pressure dew point of 3°C/37.4°F		Pressure drop at full flow		Power consumption		Max. working pressure		Compressed air connections	Dimensions						Weight	
											Length		Width		Height			
											°C	l/s	cfm	bar	psi	kW	hp	bar
FD 100 VSD	60	100	212	0.16	2.3	0.66	0.90	14.5	210	G 1 1/2 F (NPT for UL version)	805	31.69	962	37.87	1040	41	130	287
FD 140 VSD	60	140	297	0.11	1.6	1.04	1.41	14.5	210	G 2 F (NPT for UL version)	805	31.69	962	37.87	1040	41	130	287
FD 180 VSD	60	180	381	0.18	2.6	1.54	2.09	14.5	210	G 2 F (NPT for UL version)	805	31.69	962	37.87	1040	41	134	295
FD 220 VSD	60	220	466	0.14	2	1.77	2.41	14.5	210	G 2 1/2 F (NPT for UL version)	805	31.69	962	37.87	1040	41	143	315
FD 260 VSD	60	260	551	0.1	1.5	1.9	2.58	14.5	210	G 2 1/2 F (NPT for UL version)	805	31.69	962	37.87	1040	41	150	331
FD 300 VSD	60	300	636	0.18	2.6	2.64	3.59	14.5	210	G 2 1/2 F (NPT for UL version)	805	31.69	962	37.87	1040	41	165	364

Technical specifications FD 5-95 50 Hz & 60 Hz

Model	Maximum inlet conditions at full flow (ambient/ inlet)	Inlet flow with a pressure dew point of 3°C/37.4°F		Pressure drop at full flow		Power consumption		Max. working pressure		Compressed air connections	Dimensions						Weight	
											Length		Width		Height			
											°C	l/s	cfm	bar	psi	kW	hp	bar
FD 5	60	6	13	0.07	1.02	0.2	0.27	16 (1)	233 (1)	R 3/4	525.5	20.7	390	15.4	530	20.9	27	60
FD 10	60	10	21	0.11	1.6	0.2	0.27	16 (1)	233 (1)	R 3/4	525.5	20.7	390	15.4	530	20.9	27	60
FD 15	60	15	32	0.12	1.75	0.33	0.45	16 (1)	233 (1)	R 3/4	525.5	20.7	390	15.4	530	20.9	32	70
FD 20	60	20	42	0.12	1.75	0.41	0.56	16 (1)	233 (1)	R 3/4	525.5	20.7	390	15.4	530	20.9	34	75
FD 25	60	25	53	0.17	2.47	0.41	0.56	16 (1)	233 (1)	R 3/4	525.5	20.7	390	15.4	530	20.9	34	75
FD 30	60	30	64	0.25	3.64	0.41	0.56	16 (1)	233 (1)	R 3/4	525.5	20.7	390	15.4	530	20.9	34	75
FD 40	60	40	85	0.2	2.91	0.57	0.76	16 (1)	233 (1)	R 1	716	28.2	389	15.3	679	26.8	57	125
FD 50	60	50	106	0.2	2.91	0.54	0.72	16 (1)	233 (1)	R 1	716	28.2	389	15.3	679	26.8	58	128
FD 60	60	60	127	0.22	3.2	0.63	0.84	13	189	R 1	795	31.3	482	19.0	804	31.7	80	176
FD 70	60	70	148	0.22	3.2	0.87	1.17	13	189	R 1	795	31.3	482	19.0	804	31.7	81	178
FD 95	60	95	201	0.22	3.2	1.18	1.58	13	189	R 1	795	31.3	482	19.0	804	31.7	87	192

How refrigerant dryers work

A refrigerant dryer uses a refrigerant circuit and heat exchanger(s) to pre-cool air, refrigerate it to condense out moisture vapor, and then re-heat the air to prevent pipe sweating downstream.



Air circuit

- 1 Air-to-air heat exchanger: Incoming air is cooled down by the outgoing dry, cold air
- 2 Air-to-refrigerant heat exchanger: The air is cooled to the required dew point by the refrigerant circuit. The water vapor condenses into water droplets
- 3 Integrated water separator: The moisture is collected and evacuated by the electronic drain

Refrigerant circuit

- 4 Refrigerant compressor: Compresses the gaseous refrigerant to a higher pressure
- 5 Regulation device: The hot gas bypass valve regulates the dryer to prevent freezing at lower load conditions
- 6 Refrigerant condenser: Cools the refrigerant so that it changes from a gas to a liquid
- 7 Refrigerant filter: Protects the expansion device from harmful particles
- 8 Thermostatic expansion valve: The expansion process reduces the pressure and cools the refrigerant further
- 9 Liquid separator: Ensures that only refrigerant gas enters the compressor

Technical specifications FX 5-300 50& 60Hz

Model	Inlet capacity		Pressure drop		Maximum working pressure		Electrical supply		Dimensions						Weight		Compressed air connections
									Length		Width		Height				
	l/s	cfm	bar	psi	bar	psi	voltage/phase/frequency								mm	inch	
FX5	6	13	0.15	2.18	16	232	230/1/50Hz	115-230/1/60Hz	493	19.41	350	13.78	450	17.72	19	42	3/4" M
FX10	10	21	0.25	3.63	16	232	230/1/50Hz	115-230/1/60Hz	493	19.41	350	13.78	450	17.72	19	42	3/4" M
FX15	14	30	0.25	3.63	16	232	230/1/50Hz	115-230/1/60Hz	493	19.41	350	13.78	450	17.72	20	44	3/4" M
FX20	20	42	0.25	3.63	16	232	230/1/50Hz	115-230/1/60Hz	493	19.41	350	13.78	450	17.72	25	55	3/4" M
FX30	30	64	0.3	4.35	16	232	230/1/50Hz	115-230/1/60Hz	493	19.41	350	13.78	450	17.72	27	60	3/4" M
FX40	39	83	0.14	2.03	14	203	230/1/50Hz	115-230/1/60Hz	497	19.57	370	14.57	764	30.08	51	112	1" F
FX50	50	106	0.2	2.90	14	203	230/1/50Hz	115-230/1/60Hz	497	19.57	370	14.57	764	30.08	51	112	1" F
FX60	60	127	0.18	2.61	14	203	230/1/50Hz	115-230/1/60Hz	557	21.93	460	18.11	789	31.06	62	137	1 1/2" F
FX70	68	144	0.18	2.61	14	203	230/1/50Hz	115-230/1/60Hz	557	21.93	460	18.11	789	31.06	62	137	1 1/2" F
FX90	87	184	0.25	3.63	14	203	230/1/50Hz	115-230/1/60Hz	557	21.93	460	18.11	789	31.06	62	137	1 1/2" F
FX110	108	229	0.2	2.90	14	203	230/1/50Hz	230/1/60Hz	557	21.93	580	22.83	899	35.39	82	181	1 1/2" F
FX130	128	271	0.26	3.77	14	203	230/1/50Hz	230/1/60Hz	557	21.93	580	22.83	899	35.39	82	181	1 1/2" F
FX170	167	354	0.16	2.32	14	203	400/3/50Hz	460/3/60Hz	1040	40.94	805	31.69	962	37.87	145	320	2" F
FX200	200	424	0.23	3.34	14	203	400/3/50Hz	460/3/60Hz	1040	40.94	805	31.69	962	37.87	158	348	2" F
FX250	250	530	0.18	2.61	14	203	400/3/50Hz	460/3/60Hz	1040	40.94	805	31.69	962	37.87	165	364	2 1/2" F
FX300	300	636	0.18	2.61	14	203	400/3/50Hz	460/3/60Hz	1040	40.94	805	31.69	962	37.87	164	362	2 1/2" F

Reference conditions Limitations

		Reference conditions		Limitations	
		Standard	UL-approved	Standard	UL-approved
FX 5-300	Ambient temperature	25°C	100°F	5°C-43°C <sup>(1)</sup>	41°F-109°F <sup>(1)</sup>
	Inlet temperature	35°C	100°F	5°C-55°C	41°F-131°F
	Operating pressure	7 bar	100 psi	6-14 bar <sup>(2)</sup>	87-203 psi <sup>(2)</sup>
FD 5-95	Ambient temperature	25°C	100°F	1°C-46°C	34°F-131°F
	Inlet temperature	35°C	100°F	5°C-60°C	41°F-115°F
	Operating pressure	7 bar	100 psi	6-14 bar <sup>(3)</sup>	87-203 psi <sup>(3)</sup>
FD VSD 100-300	Ambient temperature	25°C	100°F	5°C-46°C	41°F-131°F
	Inlet temperature	35°C	100°F	5°C-60°C	41°F-140°F
	Operating pressure	7 bar	100 psi	6-14 bar	87-203 psi

Tested according to ISO 7183:2007 <sup>(1)</sup> FX 170-300: 46°C/131°F <sup>(2)</sup> FX 5-30: 16 bar/232 psi <sup>(3)</sup> FD 5-50: 16 bar/232 psi

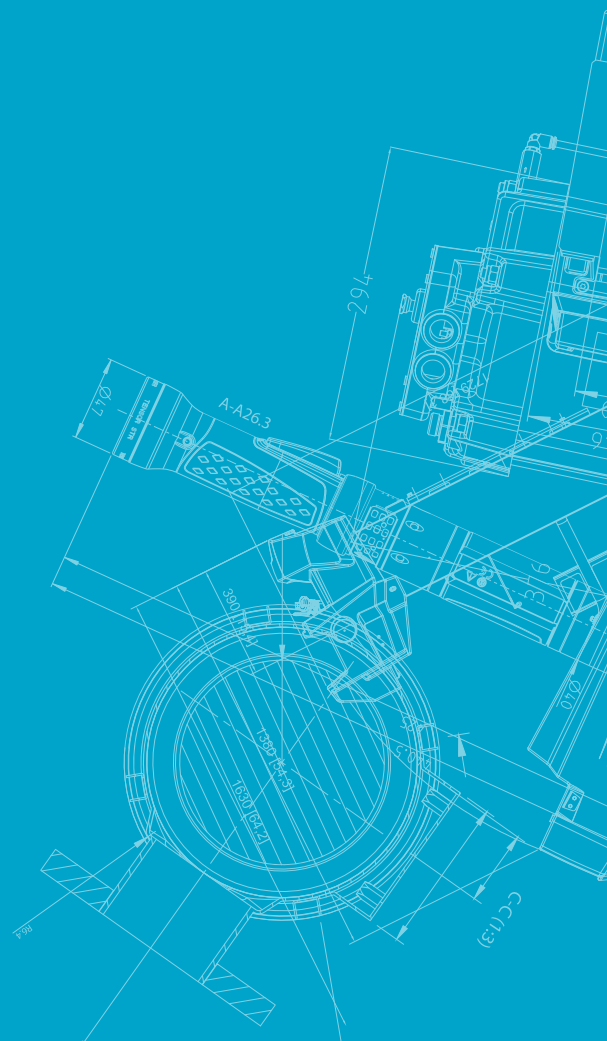
Notes

Refrigerant types:	R513A for FX 5-50, FD 5-50 R410A for FX 60-300, FD 60-95, FD VSD
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**Atlas Copco**

[atlascopco.com](http://atlascopco.com)





# Refrigerant air dryers



*Atlas Copco*

FD series (6-4000 l/s, 13-8480 cfm)





A detailed view of an industrial air compressor system. The image shows a complex arrangement of copper pipes, black cylindrical tanks, and various mechanical components. The system is housed in a dark grey metal frame. In the background, there are two large, circular, metallic components, possibly filters or pressure gauges, mounted on the frame. The overall scene is industrial and technical.

# ***Why dry your compressed air?***

Compressed air is used in a wide variety of industrial applications. Wherever it is used, compressed air must be clean and dry. Containing solid, liquid and gaseous contaminants, untreated compressed air poses a substantial risk as it can damage your air system and end product. Moisture, one of the main components of untreated air can cause corrosion in pipe work, premature failure of pneumatic equipment, product spoilage and more. An air dryer is therefore essential to protect your systems and processes.

## **Limit the risks of moisture**

When the air that surrounds us is compressed, its water vapor and particle concentration increases dramatically. For example, compressing ambient room air to 7 bar(e)/ 100 psig increases the vapor content or humidity by a factor of around 8, and subsequent cooling forms liquid water. The amount of water depends on the specific application. Compressed air can actually contain three forms of water: liquid water, aerosol (mist) and vapor (gas). An efficient means of removing water from compressed air is therefore vital.

## **Moisture in the air can be particularly problematic, causing:**

- Corrosion of compressed air piping.
- Damages & malfunction of air powered equipment.
- Compressed air leakages due to corroded pipes.
- Poor paint quality, deterioration of electrostatic painting processes.
- Deteriorated end product quality.



## **Protecting your reputation and production**

Removing moisture from compressed air with a dewpoint as low as +3°C/+37.4°F, FD refrigerant dryers provide the clean, dry air you need to expand the life of your equipment and ensure the quality of your end product.

## **Keeping your production up and running**

FD dryers are designed in-house, tested using the most stringent methods (at ambient temperatures up to 50°C/122°F) and manufactured on a very advanced production line. FD dryers meet or exceed the international standards for compressed air purity and are tested according to ISO 7183:2007.

## **Driving down energy costs**

Our FD dryers incorporate a range of energy-saving features that will cut your carbon footprint and reduce costs. Incorporating unique heat exchanger technology and Saver Cycle Control, the FD ensures a low pressure drop of typically below 0.2 bar/2.9 psi and minimal energy consumption. The integrated Variable Speed Drive (VSD) technology offers extra energy savings by automatically tuning the energy input to the precise demand.

## **Easy installation and long maintenance intervals**

FD dryers have a small footprint thanks to an innovative all-in-one design. Delivered ready for use, installation is straightforward, minimizing costly production downtime. FD dryers come as all-in-one packages including an electronic no-loss drain and spin-on DD/PD filters (optional).

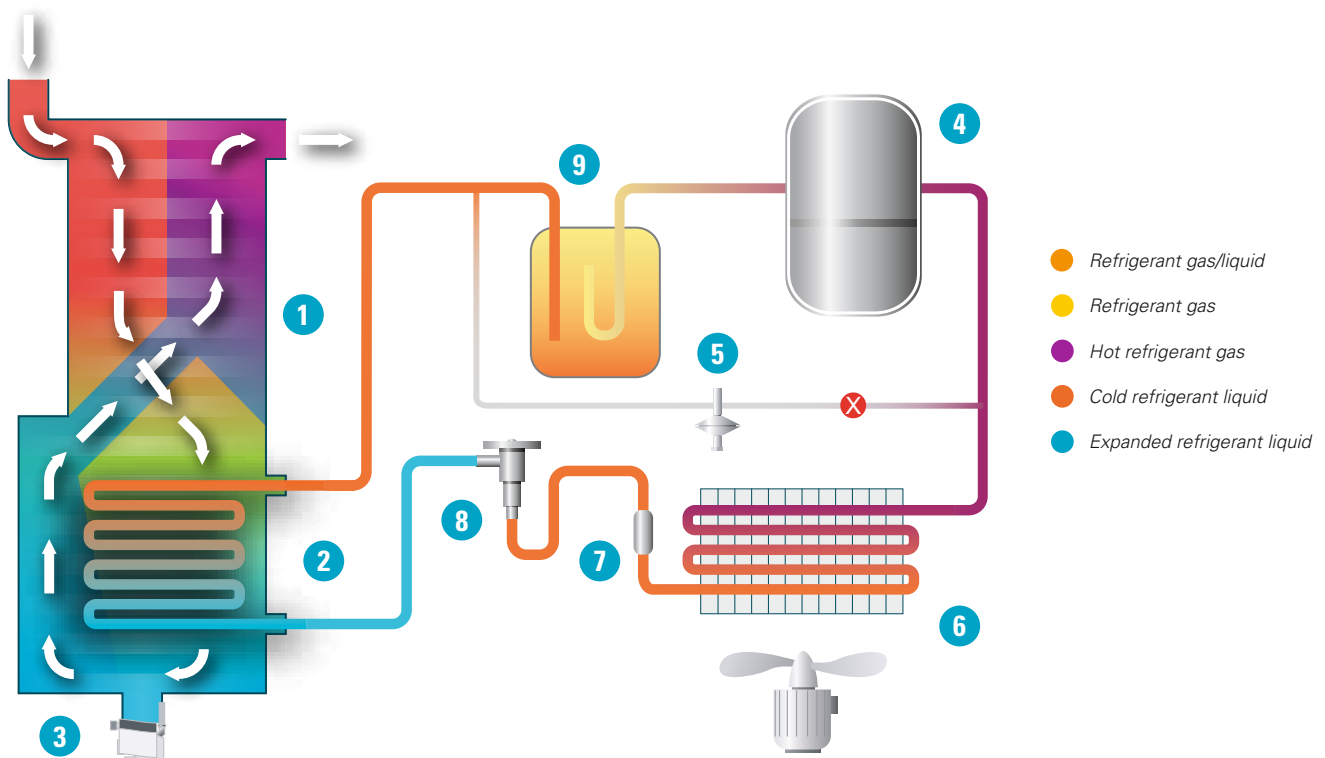
## **Low environmental impact**

Fully compliant with ISO 14001 standards and Montreal Protocol regulations, FD dryers use CFC-free refrigerants (R134A, R410A, R404A) to prevent any damage to the earth's ozone layer. FD dryers have an ozone depletion potential (ODP) of zero and are enclosed in a sound suppression canopy to reduce the noise levels, making FD dryers among the most environmentally friendly and quietest in their class.

# How does the FD dryer work?

A refrigerant dryer uses a refrigerant circuit and heat exchanger(s) to pre-cool air, refrigerate it to condense out moisture vapor, and then re-heat the air to prevent pipe sweating downstream. Refrigerant dryers can lead to a pressure dewpoint (PDP) as low as +3°C/+37.4°F for many applications where there is a need for dry air. They can be used at different pressures and consume no processed compressed air.

## Typical working principle of direct expansion dryers



### Air circuit

- 1 Air-to-air heat exchanger: Incoming air is cooled down by the outgoing dry cold air
- 2 Air-to-refrigerant heat exchanger: The air is cooled to the required dewpoint by the refrigerant circuit. The water vapor condenses into water droplets
- 3 Integrated water separator: The moisture is collected and evacuated by the electronic drain

### Refrigerant circuit

The refrigerant removes the heat from the compressed air and cools down to the desired dewpoint.

- 4 Refrigerant compressor: Compresses the gaseous refrigerant to a higher pressure
- 5 Regulation device: The hot gas bypass valve regulates the dryer to prevent freezing at lower load conditions
- 6 Refrigerant condenser: Cools the refrigerant so that it changes from a gas to a liquid
- 7 Refrigerant filter: Protects the expansion device from harmful particles
- 8 Thermostatic expansion valve: The expansion process reduces the pressure and cools the refrigerant further
- 9 Liquid separator: Ensures that only refrigerant gas enters the compressor

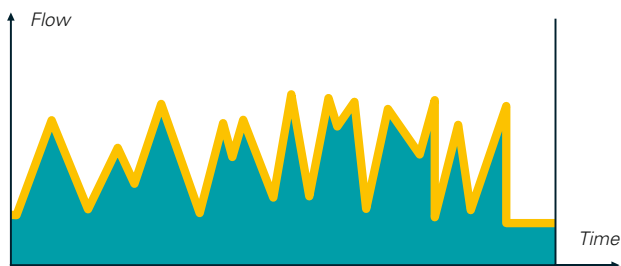
# Atlas Copco's FD refrigerant dryers

Based on years of experience in the industry, we have chosen to incorporate direct expansion technology with cycling, non-cycling and Variable Speed variants in its range.



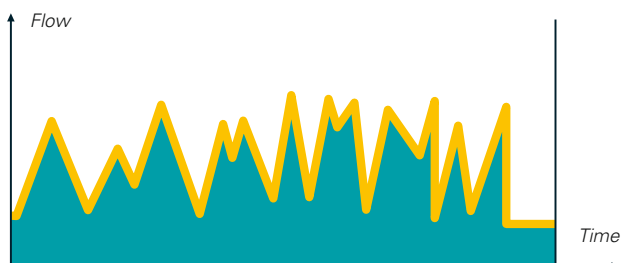
## Direct expansion dryers without Saver Cycle Control (non-cycling)

- Applications: stable dewpoint, full load applications.
- Key advantage: fixed speed dryers run continuously to ensure a stable dewpoint by design (irrespective of varying load conditions).
- Range: FD 5-1010.



## Direct expansion dryers with Saver Cycle Control (cycling)

- Applications: varying temperatures, varying flows.
- Key advantage: cycling dryers shut down the refrigerant compressor at lower load conditions which leads to significant energy savings.
- Range: FD 5-1010.



## Variable speed dryers (VSD = Variable Speed Drive)

- Applications: varying temperatures, varying flows.
- Key advantage: VSD dryers match the energy consumed to the actual compressed air used. This ensures supreme energy savings as well as a stable dewpoint across the whole spectrum of temperature and flow.
- FD 760-4000 VSD.



# Supreme energy efficiency

When purchasing a refrigerant dryer, the main focus is usually on the initial cost. What is mostly overseen is that this only represents approximately 10% of the lifecycle cost, the rest being taken up by energy, maintenance and installations costs. Of these, direct and indirect energy costs (pressure drop) are the most important.

## Indirect energy costs

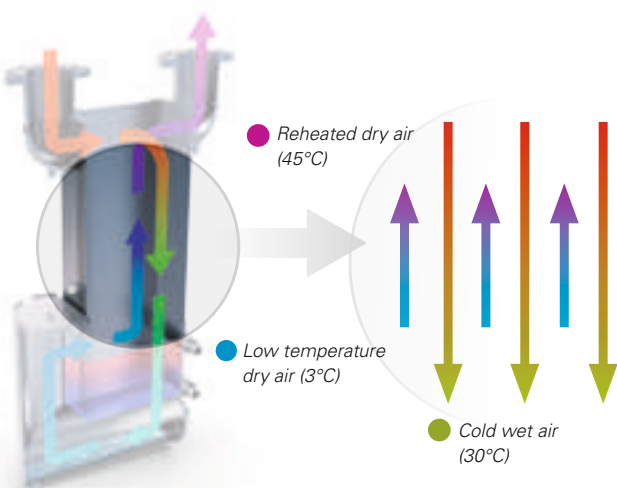
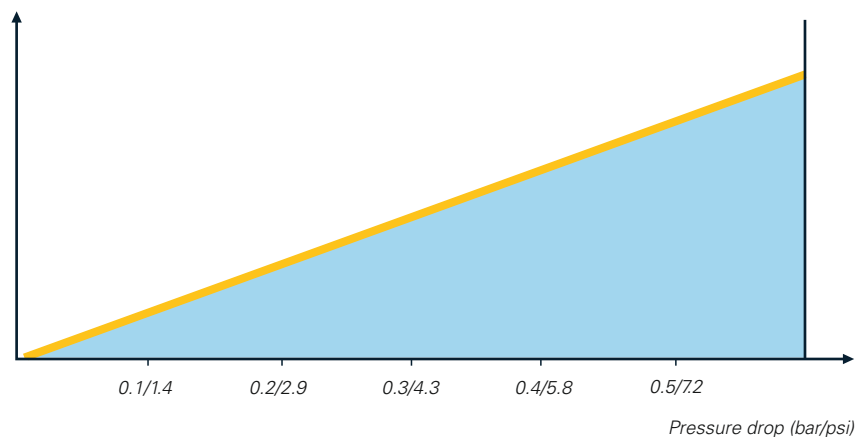
Indirect energy costs are related to the extra energy your air compressor will consume to overcome the pressure drop of the air dryer. By design, Atlas Copco FD refrigerant dryers offer a low pressure drop and efficient heat transfer – both of which contribute to a reduction of the indirect energy costs.

### Low pressure drops

If a refrigerant dryer has a high internal pressure drop, the compressor needs to run at a higher pressure. As illustrated in the example, this wastes energy and increases operating costs. Atlas Copco has therefore put considerable efforts into minimizing pressure drops in its dryers. A low pressure drop of typically below 0.2 bar/2.9 psi at full flow is ensured by the heat exchanger technology, an integrated low velocity water separator, and generously sized components.

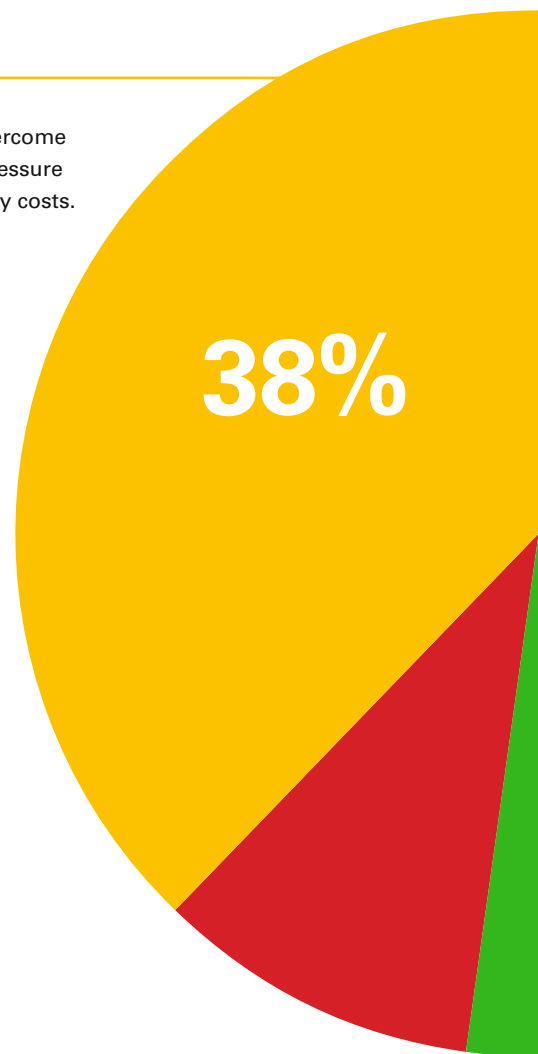
### Example of the costs related to high pressure drop

Annual energy cost



### Efficient heat transfer through unique heat exchanger technology

The FD dryer uses a counter flow heat exchanger on both the air-to-air and air-to-refrigerant side. Compared to a cross flow heat exchanger, the counter flow design results in a more efficient heat transfer and stable temperatures. This significantly lowers energy consumption.





43%

### Lifecycle cost

- Direct energy costs
- Indirect energy costs
- Investment
- Maintenance
- Installation

## Direct energy costs

Direct energy costs are related to the power that the dryer consumes. Atlas Copco's FD dryers incorporate a variety of state-of-the-art technologies such as Saver Cycle Control and Variable Speed Drive. These features result in further savings on energy costs, depending on your air consumption profile.

### Saver Cycle Control

To help you save energy, Atlas Copco FD dryers are able to adapt their working cycle to the real load by continuously monitoring and comparing the ambient temperature and the pressure dewpoint. When there is less heat load, the refrigerant compressor stops and power consumption is significantly reduced.

### Variable Speed Drive (VSD)

The VSD controller incorporated in certain FD refrigerant dryers matches the energy consumed to the actual compressed air used. This significantly reduces energy consumption – by as much as 70% compared to conventional dryers. It works by varying the speed of the compressor and ensuring a stable dewpoint. In this way the speed of the refrigeration compressor can be matched to inlet conditions, resulting in lower energy consumption at reduced loads.

### Flow switch

If the compressor is unloaded for some time, the flow switch shuts down the refrigerant compressor automatically, typically after ten minutes, saving energy.



Reduce your total lifecycle cost by up to

**50%** with Atlas Copco's  
FD dryers

- Up to **50% savings** on indirect energy costs
- Up to **70% savings** on direct energy costs

# ***FD 5-95 & FD 120-285: Superior productivity***



## **Electronic no-loss condensate drain**

- Level sensor senses the level of the condensate and opens the drain, preventing any loss of compressed air when condensate is drained.
- Equipped with backup manual drain as standard and drain alarm (FD 120-285).

## **High-efficiency heat exchanger**

Counter-flow compact brazed plate (FD 5-50) or aluminum (FD 60-285) heat exchanger, with air-to-air side for optimum cooling efficiency.



## **Optimum performance and safety in all conditions**

- Hot gas bypass valve prevents freezing at lower loads.
- R134A piston compressor with high coefficient of performance (FD 5-50) or extremely reliable R410A rotary compressor (FD 60-285) provide the best performance for each size while having minimum environmental impact. Capillary tubes cope with all conditions – no moving parts for extra reliability.
- FD 120-285 also offer condenser with louvered fin technology for improved performance in dusty environments.



### Fan switch

Reduces energy consumption and optimizes the pressure dewpoint at very low temperatures.

### Robust and compact design

- Forklift opening for easy transport.
- Easily removed front and side panels for full access.
- Optional: IP54, oil-coalescing filters (with pressure drop monitoring for FD 120-285)



*\*The type of controller may vary depending on the model.*

### Advanced control and monitoring system

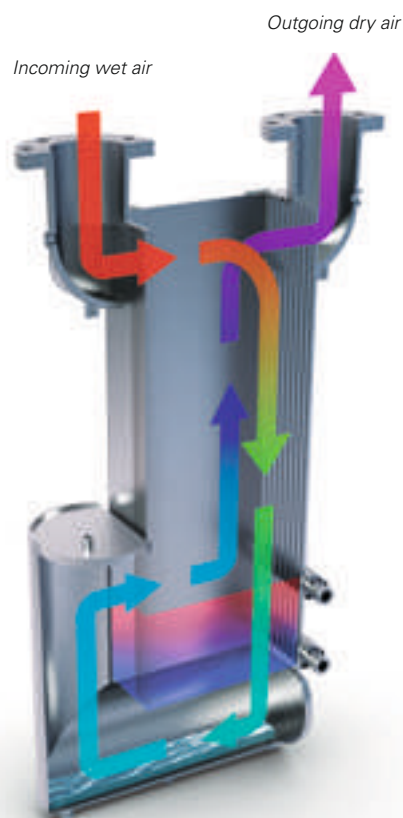
- The controller displays the pressure dewpoint (PDP) and relative humidity.
- Setting allows dryer to cycle or not (Saver Cycle Control algorithm) and restart or not after power failure.
- Remote alarm and start/stop control through voltage-free contact.
- The controller offers additional features such as energy-saving flow switch algorithm, alarm history, standard remote visualization (Ethernet plug) and communication extension possibility (FD 120-4000).



# FD 310-4000: Superior productivity

## High-efficiency heat exchanger

- Counter-flow on both air-to-air and air-to-refrigerant sides for efficient heat transfer. As the outgoing air is reheated, it protects the outlet piping against pipe sweating.
- Unlike some other dryer designs, a separate pre-filter is not required. This results in a low pressure drop. The design ensures a smooth air flow which makes the dryer less sensitive to contamination.



## Integrated water separator

- Low velocity condensate separator with high separation efficiency even in low flow conditions.
- Reliable and effective condensate evacuation from the separation chamber via the no-loss condensate drain.

## Electronic no-loss condensate drain

Level sensor senses the level of the condensate and opens the drain, preventing any loss of compressed air when condensate is drained, which is the case with timer-based drains.





## User-friendly state-of-the-art Elektronikon® controller

- Monitoring of all parameters to ensure maximum reliability for your installation.
- Fitted inside a real IP54 cubicle for easy cabling and safety.

## Hot gas bypass valve

Prevents freezing at lower loads.

## Filters

For processes requiring higher levels of filtration, Atlas Copco offers integrated DD and PD filters (optional on FD 310-510).



*\*The type of controller may vary depending on the model.*

# A step ahead in monitoring and controls

Atlas Copco's Elektronikon® controls and monitors your FD refrigerant dryers to ensure optimal productivity and efficiency at your site.

## User-friendly interface

Available in 32 languages, this graphical 3.5-inch high-definition color display with pictograms and LED indicators for key events is easy to use. The keyboard is durable to resist tough treatment in demanding environments.

## Comprehensive maintenance display

Valuable items of information displayed include the ServicePlan indicator and preventive maintenance warnings.



## Internet-based visualization\*

The Elektronikon® system monitors and displays key parameters such as dewpoint and inlet temperature, etc. Internet-based visualization of your dryer is possible by using a simple Ethernet connection.

## SMARTLINK\*: Data Monitoring Program

- A remote monitoring system that helps you optimize your compressed air system and save you energy and cost.
- It offers you a complete insight in your compressed air network and anticipates on potential problems by warning you up-front.

\* Please contact your local sales representative for more information.



# Optimize your system

With the FD, Atlas Copco provides an all-in-one standard package incorporating the latest technology in a built-to-last design. To further optimize your FD's performance or to simply tailor it to your specific production environment, optional features are available.

## Scope of supply

Avoid risk of corrosion and system leaks, and ensure the effective safe disposal of untreated condensate – all within ISO 14001 standards.

Cooling circuit	Integrated electronic no-loss drain
Electrical components	Elektronikon® control
	Voltage-free contacts for remote alarm signal
	Digital pressure dewpoint readout
Mechanical components	Counter-flow air-to-air heat exchanger
	Counter-flow air-to-refrigerant heat exchanger

## Additional features & options

		FD 5-95	FD 120-285	FD 310-510	FD 610-1010	FD 4000 VSD
General	High efficiency coalescing filters	• (1)	• (2)	• (3)	-	-
	Anchor pads	✓	✓	•	•	•
Motor	VSD control	-	-	-	•(4)	✓
	Saver Cycle Control	✓	✓	✓	✓	✓
	Control panel protection to IP23	✓	✓	✓	-	-
	Control panel protection to IP54	•	•	•	✓	✓
	Flow switch	-	✓	✓	✓	✓
Other options	Pressure dewpoint alarm	✓	✓	✓	✓	✓
	Automatic hot gas bypass valve	✓	✓	✓	✓	✓
	Automatic thermostatic valve	-	-	✓	✓	✓

(1) FD 5-50: spin-on filters - FD 60-95: integrated filters

(2) Integrated filters

(3) Spin-on filters

(4) Except FD 610

✓ : Standard    • : Optional    - : Not available

## Refrigerant content

Dryer type	Dryer version	Refrigerant type	Refrigerant quantity	CO <sub>2</sub> equivalent
Air-cooled: 50Hz				
FD 310	40/50	R410A	2	4.2
	46/56		2	4.2
	50/60		2.2	4.6
FD 410	40/50		2.7	5.6
	46/56		2.8	5.8
	50/60		3.9	8.1
FD 510	40/50		3.05	6.4
	46/56		3.4	7.1
	50/60		3.05	6.4
FD 610	40/50		2.9	6.1
FD 760	40/50		3.9	8.1
FD 760 VSD	40/50		3.6	7.5
FD 870	40/50		4.4	9.2
FD 870 VSD	40/50		4.2	8.8
FD 1010	40/50		5.5	11.5
FD 1010 VSD	40/50		4.9	10.2
Water-cooled: 50Hz				
FD 310	50/60	R410A	1.85	3.9
FD 410	50/60		2	4.2
FD 510	50/60		2.9	6.1
FD 610	40/50		3	6.3
FD 760	40/50		3.25	6.8
FD 760 VSD	40/50		3.6	7.5
FD 870	40/50		4.7	9.8
FD 870 VSD	40/50		5.9	12.3
FD 1010	40/50		4.5	9.4
FD 1010 VSD	40/50		5.9	12.3
FD 4000 VSD	40/50	R404A	18	70.6

Dryer type	Dryer version	Refrigerant type	Refrigerant quantity	CO <sub>2</sub> equivalent
Air-cooled: 60Hz				
FD 310	40/50	R410A	2	4.2
	46/56		2	4.2
	50/60		2.2	4.6
FD 410	40/50		2.7	5.6
	46/56		2.8	5.8
	50/60		3.9	8.1
FD 510	40/50		3.05	6.4
	46/56		3.4	7.1
	50/60		3.05	6.4
FD 610	40/50		2.9	6.1
FD 760	40/50		3.9	8.1
FD 760 VSD	40/50		3.6	7.5
FD 870	40/50		4.4	9.2
FD 870 VSD	40/50		4.2	8.8
FD 1010	40/50		5.5	11.5
FD 1010 VSD	40/50		4.9	10.2
Water-cooled: 60Hz				
FD 310	122/140	R410A	1.6	3.3
FD 410	122/140		1.9	4
FD 510	122/140		2.8	5.8
FD 610	104/122		2.8	5.8
FD 760	104/122		3.1	6.5
FD 760 VSD	104/122		3.6	7.5
FD 870	104/122		4.7	9.8
FD 870 VSD	104/122		5.9	12.3
FD 1010	104/122		4.2	8.8
FD 1010 VSD	104/122		5.9	12.3
FD 4000 VSD	104/122	R404A	18	70.6



# Technical specifications

Model	Maximum inlet conditions at full flow (ambient/inlet)	Inlet flow with a pressure dew-point (PDP) of 3°C/37.4°F		Pressure drop at full flow		Power consumption		Max. working pressure		Compressed air connections	Dimensions						Weight	
	°C	l/s	cfm	bar	psi	kW	hp	bar	psi		mm	in	mm	in	mm	in	kg	lb
Air-cooled 50 Hz																		
FD 5	50/60	6	13	0.07	1.02	0.2	0.27	16 (1)	233 (1)	R 3/4	525.5	20.7	390	15.4	530	20.9	27	60
FD 10	50/60	10	21	0.11	1.6	0.2	0.27	16 (1)	233 (1)	R 3/4	525.5	20.7	390	15.4	530	20.9	27	60
FD 15	50/60	15	32	0.12	1.75	0.33	0.45	16 (1)	233 (1)	R 3/4	525.5	20.7	390	15.4	530	20.9	32	70
FD 20	50/60	20	42	0.12	1.75	0.41	0.56	16 (1)	233 (1)	R 3/4	525.5	20.7	390	15.4	530	20.9	34	75
FD 25	50/60	25	53	0.17	2.47	0.41	0.56	16 (1)	233 (1)	R 3/4	525.5	20.7	390	15.4	530	20.9	34	75
FD 30	50/60	30	64	0.25	3.64	0.41	0.56	16 (1)	233 (1)	R 3/4	525.5	20.7	390	15.4	530	20.9	34	75
FD 40	50/60	40	85	0.2	2.91	0.57	0.76	16 (1)	233 (1)	R 1	716	28.2	389	15.3	679	26.8	57	125
FD 50	50/60	50	106	0.2	2.91	0.54	0.72	16 (1)	233 (1)	R 1	716	28.2	389	15.3	679	26.8	58	128
FD 60	50/60	60	127	0.22	3.2	0.63	0.84	13	189	R 1	795	28.2	482	19.0	804	31.7	80	176
FD 70	50/60	70	148	0.22	3.2	0.87	1.17	13	189	R 1	795	28.2	482	19.0	804	31.7	81	178
FD 95	50/60	95	201	0.22	3.2	1.18	1.58	13	189	R 1	795	28.2	482	19.0	804	31.7	87	192
FD 120	50/60	120	254	0.11	1.6	1	1.3	14	203	1 1/2	1015	40	675	26.6	881	34.7	170	375
FD 150	50/60	150	318	0.15	2.18	1	1.3	14	203	1 1/2	1015	40	675	26.6	881	34.7	170	375
FD 185	50/60	185	392	0.22	3.19	1.4	1.9	14	203	2 1/2	1024	40.3	816	32.1	943	37.1	185	408
FD 220	50/60	220	466	0.12	1.74	1.9	2.5	14	203	2 1/2	1024	40.3	816	32.1	943	37.1	197	434
FD 245	50/60	245	519	0.18	2.61	2.1	2.8	14	203	2 1/2	1024	40.3	816	32.1	943	37.1	197	434
FD 285	50/60	285	604	0.22	3.19	2.2	2.9	14	203	2 1/2	1024	40.3	816	32.1	943	37.1	197	434
FD 310	40/50	310	657	0.23	3.3	2.8	3.75	14	203	G 3	986	38.8	850	33.5	1190	46.9	198	437
FD 310	46/56	310	657	0.23	3.3	2.8	3.75	14	203	G 3	986	38.8	850	33.5	1190	46.9	200	441
FD 310	50/60	310	657	0.23	3.3	2.9	3.89	14	203	G 3	986	38.8	850	33.5	1190	46.9	202	445
FD 410	40/50	410	869	0.21	3	3	4.02	14	203	G 3	986	38.8	850	33.5	1375	54.1	220	485
FD 410	46/56	410	869	0.21	3	4.6	6.17	14	203	G 3	1250	49.2	850	33.5	1375	54.1	240	529
FD 410	50/60	410	869	0.21	3	4.8	6.44	14	203	G 3	1525	60	850	33.5	1375	54.1	290	639
FD 510	40/50	510	1081	0.20	2.9	4.5	6.03	14	203	G 3	1250	49.2	850	33.5	1375	54.1	260	573
FD 510	46/56	510	1081	0.20	2.9	6.4	8.58	14	203	G 3	1525	60	850	33.5	1375	54.1	310	683
FD 510	50/60	510	1081	0.20	2.9	6.9	9.25	14	203	G 3	1525	60	850	33.5	1375	54.1	315	694
FD 610	40/50	610	1293	0.17	2.47	4.8	6.4	14	203	DIN100	1040	40.9	1060	41.7	1580	62.2	320	705
FD 760	40/50	760	1611	0.17	2.47	5.3	7.1	14	203	DIN100	1245	49	1060	41.7	1580	62.2	380	838
FD 760 VSD	40/50	760	1611	0.17	2.47	5.3	7.1	14	203	DIN100	1245	49	1060	41.7	1580	62.2	380	838
FD 870	40/50	870	1844	0.15	2.17	6.6	8.8	14	203	DIN150	1245	49	1060	41.7	1580	62.2	400	882
FD 870 VSD	40/50	870	1844	0.15	2.17	5.8	7.8	14	203	DIN150	1245	49	1060	41.7	1580	62.2	400	882
FD 1010	40/50	1010	2141	0.17	2.47	7.4	9.9	14	203	DIN150	1580	62.2	1060	41.7	1580	62.2	460	1014
FD 1010 VSD	40/50	1010	2141	0.17	2.47	6.6	8.8	14	203	DIN150	1580	62.2	1060	41.7	1580	62.2	460	1014
Water-cooled 50 Hz																		
FD 310	50/60	310	657	0.23	3.3	2	2.68	14	203	G 3	986	38.8	850	33.5	1190	46,9	180	397
FD 410	50/60	410	869	0.21	3	2.4	3.22	14	203	G 3	1250	49.2	850	33.5	1375	54,1	240	529
FD 510	50/60	510	1081	0.2	2.9	4.1	5.5	14	203	G 3	1250	49.2	850	33.5	1375	54,1	260	573
FD 610	40/50	610	1293	0.17	2.47	3.1	4.2	14	203	DIN100	1245	49	1060	41.7	1580	62.2	350	772
FD 760	40/50	760	1611	0.17	2.47	3.6	4.8	14	203	DIN100	1245	49	1060	41.7	1580	62.2	360	794
FD 760 VSD	40/50	760	1611	0.17	2.47	3.3	4.4	14	203	DIN100	1580	62.2	1060	41.7	1580	62.2	410	904
FD 870	40/50	870	1844	0.15	2.17	4.5	6	14	203	DIN150	1245	49	1060	41.7	1580	62.2	370	816
FD 870 VSD	40/50	870	1844	0.15	2.17	4.2	5.6	14	203	DIN150	1580	62.2	1060	41.7	1580	62.2	410	904
FD 1010	40/50	1010	2141	0.17	2.47	5.1	6.8	14	203	DIN150	1245	49	1060	41.7	1580	62.2	380	838
FD 1010 VSD	40/50	1010	2141	0.17	2.47	5.6	7.5	14	203	DIN150	1580	62.2	1060	41.7	1580	62.2	410	904
FD 4000 VSD	40/50	4000	8480	0.22	3.2	279	3741	13	189	DIN250	2200	86,6	2300	90,6	1910	75,2	2010	4431

(1) 20 bar(g)/290 psi(g) variant available

FD 5-95: R134A  
FD 120-1010: R410A  
FD 4000 VSD: R404A

## Reference conditions:

Performance data per ISO 7183:2007

- Ambient temperature: 25°C, 77°F
- Inlet compressed air temperature: 35°C, 95°F
- Inlet pressure: 7 bar(e)/102 psig

## Refrigerant types:

# Technical specifications

Model	Maximum inlet conditions at full flow (ambient/inlet)	Inlet flow with a pressure dew-point (PDP) of 3°C/37.4°F		Pressure drop at full flow		Power consumption		Max. working pressure		Compressed air connections	Dimensions						Weight	
	°C	l/s	cfm	bar	psi	kW	hp	bar	psi		mm	in	mm	in	mm	in	kg	lb
Air-cooled 60 Hz																		
FD 5	122/140	6	13	0.07	1.02	0.23	0.31	16 (1)	233 (1)	NPT 3/4	496	19.5	377	14.8	461	18.1	27	60
FD 10	122/140	10	21	0.11	1.6	0.23	0.31	16 (1)	233 (1)	NPT 3/4	496	19.5	377	14.8	461	18.1	27	60
FD 15	122/140	15	32	0.12	1.75	0.34	0.46	16 (1)	233 (1)	NPT 3/4	496	19.5	377	14.8	461	18.1	32	70
FD 20	122/140	20	42	0.12	1.75	0.53	0.71	16 (1)	233 (1)	NPT 3/4	496	19.5	377	14.8	461	18.1	34	75
FD 25	122/140	25	53	0.17	2.47	0.53	0.71	16 (1)	233 (1)	NPT 3/4	496	19.5	377	14.8	461	18.1	34	75
FD 30	122/140	30	64	0.25	3.64	0.53	0.71	16 (1)	233 (1)	NPT 3/4	496	19.5	377	14.8	461	18.1	34	75
FD 40	122/140	40	85	0.2	2.91	0.73	0.98	16 (1)	233 (1)	NPT 1	688	27.1	389	15.3	604	23.8	57	125
FD 50	122/140	50	106	0.2	2.91	0.79	1.06	16 (1)	233 (1)	NPT 1	689	27.1	389	15.3	604	23.8	58	128
FD 60	122/140	60	127	0.22	3.2	0.63	0.84	13	189	NPT 1	726	28.6	482	19.0	804	31.7	80	176
FD 70	122/140	70	148	0.22	3.2	0.87	1.17	13	189	NPT 1	726	28.6	482	19.0	804	31.7	81	178
FD 95	122/140	95	201	0.22	3.2	1.18	1.58	13	189	NPT 1	726	28.6	482	19.0	804	31.7	87	192
FD 120	122/140	120	254.4	0.11	1.6	1.73	2.3	14	203	NPT 1 1/2	836	32.9	661	26.0	802	31.6	170	375
FD 150	122/140	140	296.8	0.14	2.03	2.35	3.2	14	203	NPT 1 1/2	836	32.9	661	26.0	802	31.6	170	375
FD 185	122/140	170	360.4	0.22	3.19	2.32	3.1	14	203	NPT 2 1/2	1024	40.3	816	32.1	943	37.1	185	408
FD 220	122/140	220	466.4	0.12	1.74	2.58	3.5	14	203	NPT 2 1/2	1024	40.3	816	32.1	943	37.1	197	434
FD 245	122/140	230	487.6	0.18	2.61	2.85	3.8	14	203	NPT 2 1/2	1024	40.3	816	32.1	943	37.1	197	434
FD 285	122/140	285	604.2	0.22	3.19	3.09	4.1	14	203	NPT 2 1/2	1024	40.3	816	32.1	943	37.1	197	434
FD 310	104/122	310	657	0.23	3.3	4.3	5.77	14	203	NPT 3	986	38.8	850	33.5	1190	46.9	198	437
FD 310	115/133	310	657	0.23	3.3	4.6	6.17	14	203	NPT 3	986	38.8	850	33.5	1190	46.9	200	441
FD 310	122/140	310	657	0.23	3.3	4.6	6.17	14	203	NPT 3	986	38.8	850	33.5	1190	46.9	202	445
FD 410	104/122	410	869	0.21	3	4.5	6.03	14	203	NPT 3	986	38.8	850	33.5	1375	54.1	220	485
FD 410	115/133	410	869	0.21	3	6.1	8.18	14	203	NPT 3	1250	49.2	850	33.5	1375	54.1	240	529
FD 410	122/140	410	869	0.21	3	7.3	9.79	14	203	NPT 3	1525	60	850	33.5	1375	54.1	290	639
FD 510	104/122	510	1081	0.2	2.9	7.3	9.79	14	203	NPT 3	1250	49.2	850	33.5	1375	54.1	260	573
FD 510	115/133	510	1081	0.2	2.9	9.1	12.2	14	203	NPT 3	1525	60	850	33.5	1375	54.1	310	683
FD 510	122/140	510	1081	0.2	2.9	10.4	13.95	14	203	NPT 3	1525	60	850	33.5	1375	54.1	315	694
FD 610	104/122	610	1293	0.17	2.47	7.6	10.2	14	203	ANSI 4	1040	40.9	1060	41.7	1580	62.2	320	705
FD 760	104/122	760	1611	0.17	2.47	8.1	10.9	14	203	ANSI 4	1245	49	1060	41.7	1580	62.2	380	838
FD 760 VSD	104/122	760	1611	0.17	2.47	9.1	12.2	14	203	ANSI 4	1245	49	1060	41.7	1580	62.2	380	838
FD 870	104/122	870	1844	0.15	2.17	10.2	13.7	14	203	ANSI 6	1245	49	1060	41.7	1580	62.2	400	882
FD 870 VSD	104/122	870	1844	0.15	2.17	11.1	14.9	14	203	ANSI 6	1580	62.2	1060	41.7	1580	62.2	450	992
FD 1010	104/122	1010	2141	0.17	2.47	11.9	16	14	203	ANSI 6	1580	62.2	1060	41.7	1580	62.2	460	1014
FD 1010 VSD	104/122	1010	2141	0.17	2.47	11.4	15.3	14	203	ANSI 6	1580	62.2	1060	41.7	1580	62.2	460	1014
Water-cooled 60 Hz																		
FD 310	122/140	310	657	0.23	3.3	2.5	3.35	14	203	NPT 3	986	38.8	850	33.5	1190	46.9	180	397
FD 410	122/140	410	869	0.21	3.0	3.2	4.29	14	203	NPT 3	1525	60.0	850	33.5	1375	54.1	240	529
FD 510	122/140	510	1081	0.20	2.9	5.0	6.71	14	203	NPT 3	1525	60.0	850	33.5	1375	54.1	260	573
FD 610	104/122	610	1293	0.17	2.47	3.9	5.2	14	203	ANSI 4	1245	49	1060	41.7	1580	62.2	350	772
FD 760	104/122	760	1611	0.17	2.47	4.5	6	14	203	ANSI 4	1245	49	1060	41.7	1580	62.2	360	794
FD 760 VSD	104/122	760	1611	0.17	2.47	4.3	5.8	14	203	ANSI 4	1580	62.2	1060	41.7	1580	62.2	410	904
FD 870	104/122	870	1844	0.15	2.17	5.8	7.8	14	203	ANSI 6	1245	49	1060	41.7	1580	62.2	370	816
FD 870 VSD	104/122	870	1844	0.15	2.17	5.6	7.5	14	203	ANSI 6	1580	62.2	1060	41.7	1580	62.2	410	904
FD 1010	104/122	1010	2141	0.17	2.47	6.2	8.3	14	203	ANSI 6	1245	49	1060	41.7	1580	62.2	380	838
FD 1010 VSD	104/122	1010	2141	0.17	2.47	6.1	8.2	14	203	ANSI 6	1580	62.2	1060	41.7	1580	62.2	410	904
FD 4000 VSD	104/122	4000	8480	0.22	3.2	13.2	17.7	13	189	ANSI 10	2200	86.6	2300	90.6	1910	75.2	2010	4431

(1) 20 bar(g)/290 psi(g) variant available

**Reference conditions:**

- Ambient temperature: 38°C, 100°F
- Inlet compressed air temperature: 38°C, 100°F
- Inlet pressure: 7 bar(e)/102 psig

**Refrigerant types:**

FD 5-95: R134A  
FD 120-1010: R410A  
FD 4000 VSD: R404A

## ***COMMITTED TO SUSTAINABLE PRODUCTIVITY***

We stand by our responsibilities towards our customers, towards the environment and the people around us. We make performance stand the test of time. This is what we call – Sustainable Productivity.



[www.atlascopco.com](http://www.atlascopco.com)



# Medical Sterile Filters

Models | A3021MS to A3303MS

Flow Rates 15 SCFM (25 Nm<sup>3</sup>/hr) to 1500 SCFM (2550 Nm<sup>3</sup>/hr)

**When it comes to patient care, quality and reliability of compressed air is paramount. Walker Filtration's range of New Alpha Medical Sterile Filters guarantees reliable and outstanding air purity that meets internationally certified medical performance levels.**

100% integrity tested, New Alpha Medical Sterile elements are guaranteed for a minimum of 100 sterilizations at 248°F (120°C), ensuring your compressed air is free from live bacteria and other submicron particles.



#### **Stainless Steel End Caps**

Specially designed for autoclave sterilization compatibility



#### **100% Integrity Tested**

Each element is supplied with an Air Sterilization Certificate to guarantee the highest quality to our customers



#### **Product Safety in Mind**

Lock indication arrows assure effective sealing

- **International Validation** Designed to exceed the requirements of HTM 02-01 medical gas pipeline systems
- **Simplified Serviceability** Ribbed bowl design and unique push fit elements ensure quick and reliable maintenance
- **Product Safety in Mind** Guaranteed safe housing closure with rotational safety stop
- **Corrosion Protection** Internal and external electrophoretic paint finish followed by a tough polyester powder coating
- **Flexible Installation** Modular design and accessible fixings enable simple close coupling assembly
- **Robust and Sterilizable Materials** Manufactured from cast aluminum alloy for enhanced strength and protection



**Designed to exceed the requirements of HTM 02-01 Technical Memorandum**



For further information please visit [www.walkerfiltration.com](http://www.walkerfiltration.com)



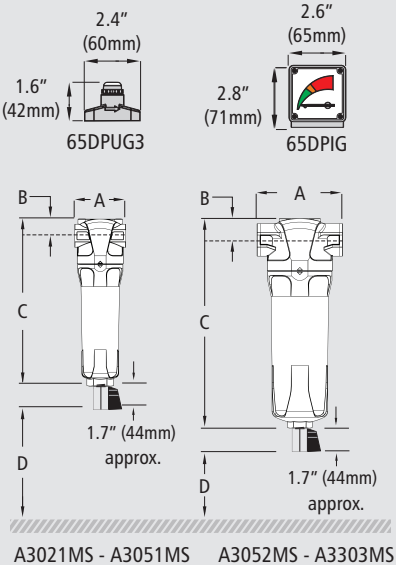
For further information please call: +1 814 836 2900



# Technical Specification

Filter model	Pipe size inches	Inlet flow rate*		Dimensions inches (mm)				Weight		Element model
		SCFM	Nm <sup>3</sup> /hr	A	B	C	D	lbs	kg	
A3021MS	1/4	15	25	1.97 (50)	0.67 (17)	618 (157)	2.36 (60)	0.6	0.25	E30306SR
A3022MS	1/4	25	42	2.76 (70)	0.94 (24)	9.09 (231)	2.76 (70)	1.3	0.6	E30408SR
A3031MS	3/8	32	54	2.76 (70)	0.94 (24)	9.09 (231)	2.76 (70)	1.3	0.6	E30408SR
A3051MS	1/2	50	85	2.76 (70)	0.94 (24)	9.09 (231)	2.76 (70)	1.3	0.6	E30412SR
A3052MS	1/2	70	119	5.00 (127)	1.26 (32)	11.22 (285)	3.15 (80)	3.7	1.7	E30612SR
A3071MS	3/4	85	144	5.00 (127)	1.26 (32)	11.22 (285)	3.15 (80)	3.7	1.7	E30612SR
A3102MS	1	175	297	5.00 (127)	1.26 (32)	14.61 (371)	3.15 (80)	4.4	2	E30621SR
A3122MS	1 1/4	280	476	6.69 (170)	2.09 (53)	20.00 (508)	3.94 (100)	10.8	4.9	E30831SR
A3151MS	1 1/2	400	680	6.69 (170)	2.09 (53)	20.00 (508)	3.94 (100)	10.8	4.9	E30831SR
A3201MS	2	450	765	6.69 (170)	2.09 (53)	20.00 (508)	3.94 (100)	10.8	4.9	E30831SR
A3202MS	2	700	1189	6.69 (170)	2.09 (53)	27.87 (708)	3.94 (100)	12.1	5.5	E30850SR
A3251MS	2 1/2	850	1444	8.66 (220)	2.76 (70)	28.98 (736)	3.94 (100)	23.1	10.5	E31140SR
A3301MS	3	900	1529	8.66 (220)	2.76 (70)	28.98 (736)	3.94 (100)	23.1	10.5	E31140SR
A3302MS	3	1250	2125	8.66 (220)	2.76 (70)	33.74 (857)	3.94 (100)	25.4	11.5	E31160SR
A3303MS	3	1500	2550	8.66 (220)	2.76 (70)	39.57 (1005)	3.94 (100)	27.6	12.5	E31175SR

\*Rated flow at 100 psig (7 barg), reference conditions at 14.5 psi (a) (1 bar (a)) 68°F (20°C)



Grade	SR	
DOP efficiency**	>99.9999%	
Particle removal	0.01 micron	
Maximum operating temperature	248°F	120°C
Recommended operating temperature	122°F	50°C
Maximum autoclave temperature	273°F	134°C
Pressure Loss - clean & dry	1.5 psi	100 mbar
Maximum working pressure	300 psig	20.7 barg
Element end cap material	Stainless steel	

\*\*As specified in HTM 02-01 medical gas pipeline systems

Pressure correction factors	For maximum flow rate, multiply model flow rate by the correction factor corresponding to the minimum operating pressure									
Operating pressure psig (barg)	58 (4)	72 (5)	87 (6)	100 (7)	115 (8)	145 (10)	174 (12)	203 (14)	232 (16)	290 (20)
100 psig correction factor	0.76	0.84	0.92	1.00	1.07	1.19	1.31	1.41	1.51	1.60

## Technical notes

- Filter element End Caps are stainless steel.
- Direction of air flow is outside to in through the filter element.
- Pop up indicators (65DPUG3) are fitted to models A3022 to A3051 as standard. Differential pressure indicators (65DPiG) are fitted to models A3052 to A3303 as standard.
- Manual drain valves (MDV25 on models A3021MS to 3051MS and MDVE25 on models A3052MS to A3303MS) are fitted as standard.
- Medical Sterile Filter elements must not operate in water or oil saturated conditions.
- Maximum steam sterilizing temperature refers to the filter element ONLY. Grade SR filter elements can be steam sterilized 100 times. Each element must be autoclaved before commencement of duty.
- Pre-filtration should be used in conjunction with 0.01 micron sterile filters.
- Threaded filters are manufactured from cast aluminum alloy and are PED 2014/68/EU compliant for group 2 gases.
- Standard threaded connections are NPT to ANSI/ASME B1.20.1. RP (BSP Parallel) to ISO 7-1 and RC (BSP Taper) to ISO 7-1 are also available upon request.
- Filter elements should be changed at least every 6 months or every 100 sterilizations, whichever comes first.
- Filters are suitable for use in dry air conditions only, as any liquids passing through the filter could carry bacteria and compromise sterility

CRN



# IMPORTANT

## Noua generatie de sistem de comanda si control **ELEKTRONIKON® MK5 GRAPHIC**

### Caracteristici noi:

- Display grafic de inalta calitate de 3,5"
- Algoritmi de economisire a energiei
- Indicatori clari de service
- Interfata imbunatatita cu o tastatura mai rezistenta
- Sistem de navigare user friendly
- Posibilitate de supraveghere on line



### Beneficii:

- Algoritmi de economie de consum de energie electrica (asigura cel mai mic nivel de consum energetic de pe piata) => costuri mai mici
- Debitul de aer obtinut la acest consum energetic este cel mai bun de pe piata, inseamna ca pentru acelasi cost cu energia electrica obtineti mai mult debit => costuri mai mici
- Cele mai mici caderi de presiune in interiorul echipamentului. (se stie ca fiecare cadere de presiune de 1 bar reprezinta 7% din costul total cu energia electrica a compresorului) => costuri mai mici
- Urmare foarte exacta a interventiilor de service si un display de inalta definitie pentru a putea supraveghea cu foarte mare usurinta modul de functionare al compresorului. (siguranta in functionare si interventii de service facute exact atunci la momentul in care se atinge intervalul) => costuri mai reduse

**NOTA** : 1) Separatoarele de condens **ATLAS COPCO** elimina cca. **60 %** din condensul existent in aerul comprimat refulat de compresor.

2) Debitul de aer aspirat (FAD) conform **ISO 1217** este exprimat in urmatoarele conditii de referinta :

- presiunea absoluta la aspiratie : **1 bar**
- temperatura aerului aspirat : **+ 20° C**

### FACILITATI ASIGURATE :

- consultanta si recomandari privind instalarea echipamentelor ;
- manualul de intretinere si exploatare in limba engleza si limba romana ;
- asistenta tehnica la punerea in functiune si emiterea garantiei echipamentelor ;
- instruirea personalului de intretinere si operare ;
- certificat de calitate, conformitate **ISO 9001**, **ISO 14001**, certificare **EUR 1**
- Compresoarele se livreaza cu toate filtrele necesare, montate pe unitate si cu primul schimb de ulei realizat asa incat compresorul poate fi utilizat imediat dupa conectarea sa la retea electrica.
- Concernul suedez **ATLAS COPCO** va ofera astazi compresoare cu cel mai eficient proces de comprimare a aerului, prin adoptarea unor solutii energetice si tehnice extreme de performante, avand **consumurile energetice cele mai scazute** !
- Motorul electric de actionare este un motor **Siemens**, robust si fiabil, cu grad de protectie **IP 55** (etanseitate si protectie ridicata la praf si umiditate), clasa de izolatie **F** (rezistenta la temperature ridicate si porniri repetate), iar clasa de eficienta este **EFF 1**.
- Compresoarele **ATLAS COPCO** sunt singurele compresoare , la ora actuala, care pot functiona cu injectie de ulei mineral, agent de ungere si racire (semisintetic), sau cu ulei alimentar (food oil) !
- Inovatia patentata de **ATLAS COPCO** a dus la o separare extreme de eficienta a uleiului din aerul comprimat, obtinandu-se o cantitate remanenta de ulei in aer de max. 2 mg/m³.
- utilizarea de **uleiuri minerale biodegradabile** in cantitati reduse si care necesita inlocuirea la intervale de **4 000 ore**, impreuna cu filtrele de aer si ulei
- Profilul rotorului (a surubului) **ATLAS COPCO** este cel mai performant si eficient al ora actuala.

- Blocul de compresie **ATLAS COPCO** utilizeaza cei mai performanti rulmenti **SKF**, ceea ce confera o robustete si o fiabilitate in timp, neintalnita la alti producatori de compresoare.  
Din acest motiv, compresoarele **ATLAS COPCO** pot functiona **in regim greu, de 24 de ore din 24, 7 zile pe saptamana si 365 de zile pe an.**
- Sistemul de comanda si control electronic tip **ELEKTRONIKON®**, protejat **IP 65** comanda mersul in sarcina / in gol sau opreste compresorul, in functie de consumul de aer din reseaua de aer comprimat, realizand o importanta economie de energie electrica.  
Din acest motiv **nu se justifica angajarea unui personal de supraveghere**.
  - De asemenea sistemul **ELEKTRONIKON®** asigura afisarea parametrilor de lucru, contorizeaza orele de functionare mers in gol/sarcina, monitorizeaza protectiilor compresorului, parametrii uscatorului de aer (daca este incorporat), monitorizeaza toate componentele ce fac obiectul programului de interventie preventiva (ulei, filtre de aer si ulei, etc), afiseaza opririle de avarie, etc.
  - La compresoarele **ATLAS COPCO** operatiile de service se pot realiza de catre personalul de calificare mediu din orice societate, care exploateaza instalatiile mecanice si electrice.

## **CONDITII DE SERVICE**

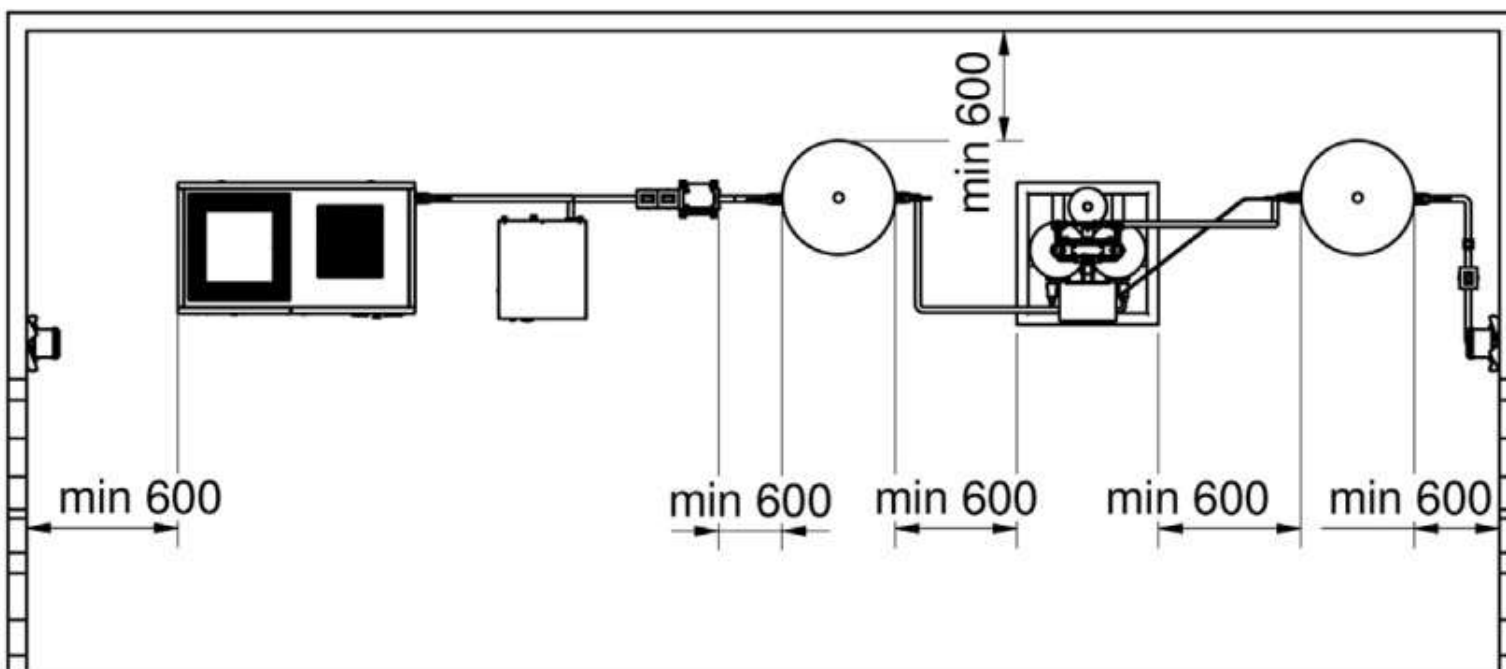
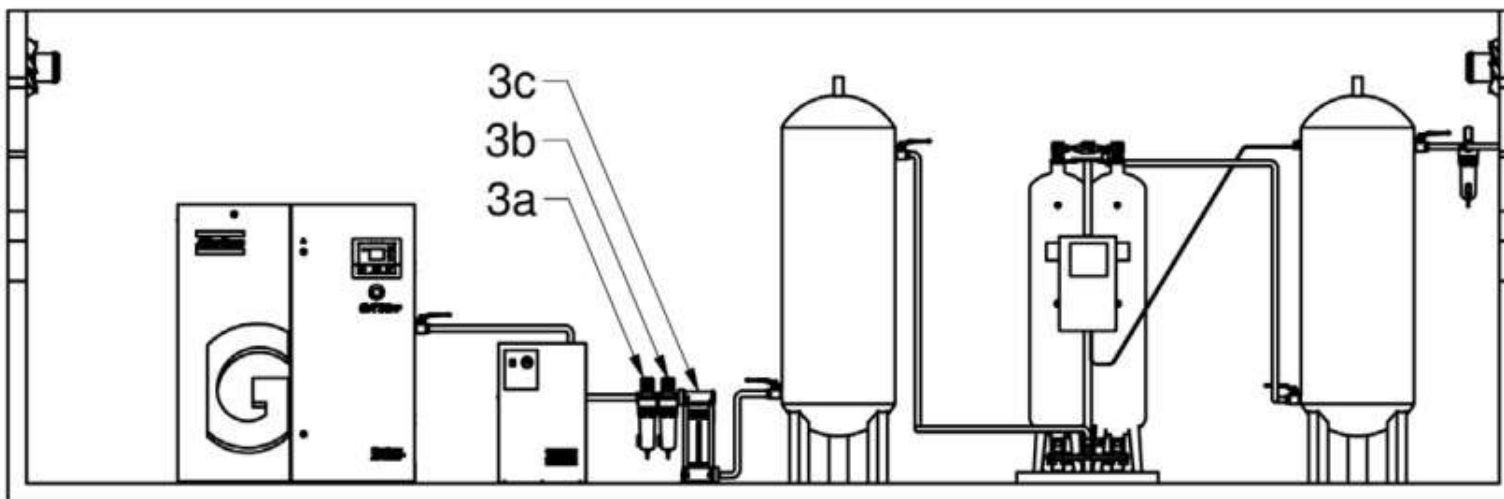
In ce priveste capabilitatea firmei noastre de a efectua lucrari de service, intretinere si reparatii pentru compresoarele cu surub **ATLAS COPCO** pe care le comercializam dorim sa va informam urmatoarele :

- dispunem de toata documentatia tehnica necesara pentru lucrari de service si reparatii
- dispunem de toate sculele necesare pentru efectuarea oricarui tip de interventii
- personalul firmei noastre este instruit periodic direct de catre producatorul **ATLAS COPCO**
- personalul firmei noastre are o bogata experienta in domeniul compresoarelor de aer
- asiguram consultanta pentru instalare, dimensionare si exploatare in orice tip de aplicatie pentru aer.

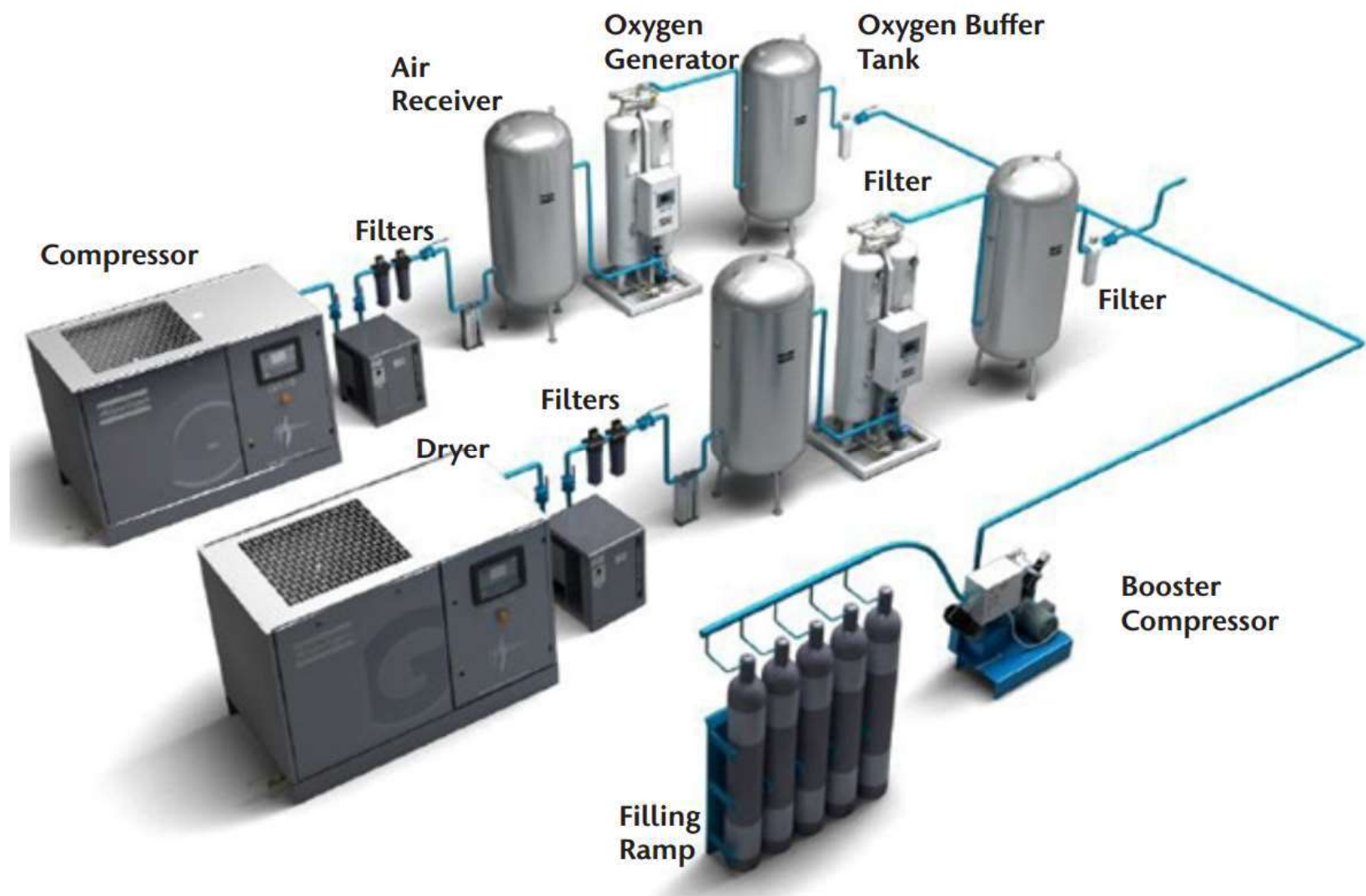


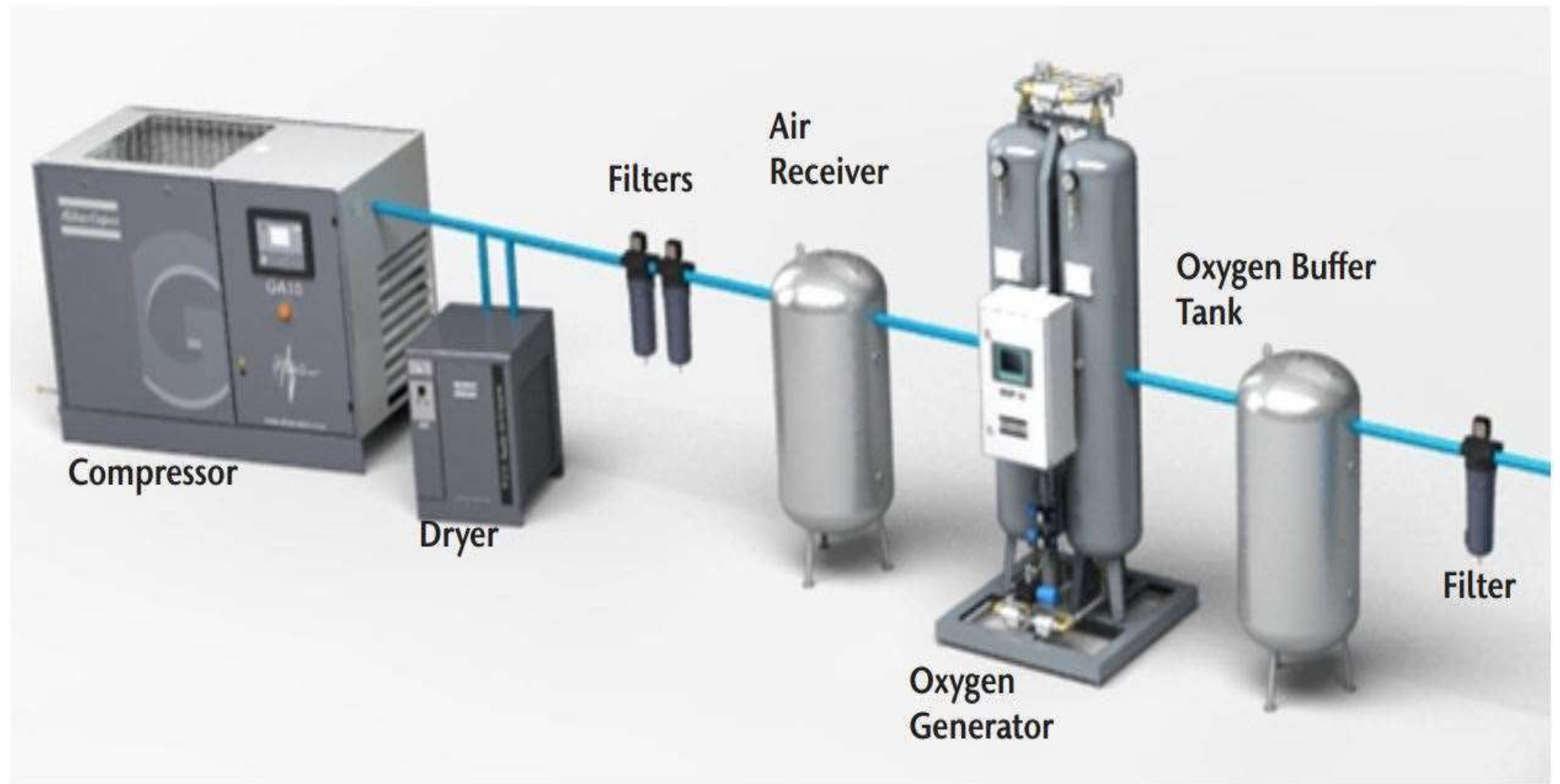
**In perioada de post-garantie, firma noastra asigura prompt service pe baza de contract sau la cerere, pentru toate echipamentele livrate.**

**SCHEMA DE INSTALARE**  
**STAȚIEI DE PRODUCERE A OXIGENULUI MEDICAL**









# Atlas Copco

On-site Industrial Gases

Nitrogen & Oxygen Generators



*Sustainable Productivity*

**Atlas Copco**





# A secure supply of nitrogen and oxygen

Whether your company is specialized in chemical manufacturing, electronics, laser cutting or food and beverage, a dependable supply of industrial gas is crucial. Compared to the on-demand delivery of gas bottles or tanks, on-site production of gas offers a wealth of advantages ranging from cost savings to continuous availability. This is exactly what Atlas Copco provides. Our advanced nitrogen and oxygen generators offer you the ultimate solution: flexible on-site production of industrial gas at the lowest possible cost.



## BENEFITS OF ON-SITE NITROGEN AND OXYGEN

- Your own independent supply of industrial gas.
- Non-stop availability: 24 hours a day, 7 days a week.
- Significant economies of scale and lower operational costs: no rental charges, transport expenses and bulk user evaporation losses.
- No safety hazards when handling high-pressure cylinders.
- Easy integration within existing compressed air installations.

## HIGH RELIABILITY

- Proven technology: simple, reliable and durable.
- The exact purity your application demands.
- Low operating costs for extra cost-efficiency.
- World-class expertise in a unique market offer from compressed air to gas.







## MEETING ANY NEED

Atlas Copco's nitrogen and oxygen generators offer a cost-effective means for on-site gas generation. Including models sized for a wide range of flow rates and product purities, these generators are renowned for their exceptional versatility and efficiency. Generators based on both Pressure Swing Absorption (PSA) and membrane technologies are available.

## WIDE RANGE OF APPLICATIONS

- Food & beverage (storage & packaging).
- Pharmaceutical applications.
- Plastic injection molding.
- Electronics.
- Laser cutting.
- Semiconductor manufacturing.
- Chemical applications.
- Metal heat treatment.
- Cable & optical fiber industries.
- Glass industries.
- Fire prevention.
- Aquaculture.

# Membrane: Efficient all-in-one N<sub>2</sub> supply

Atlas Copco NGM Nitrogen Generators utilize proprietary membrane separation technology. The membrane separates compressed air into two streams: one is 95-99% pure nitrogen, and the other is oxygen enriched with carbon dioxide and other gases.

## INSTANT SUPPLY OF NITROGEN BETWEEN 95% AND 99%

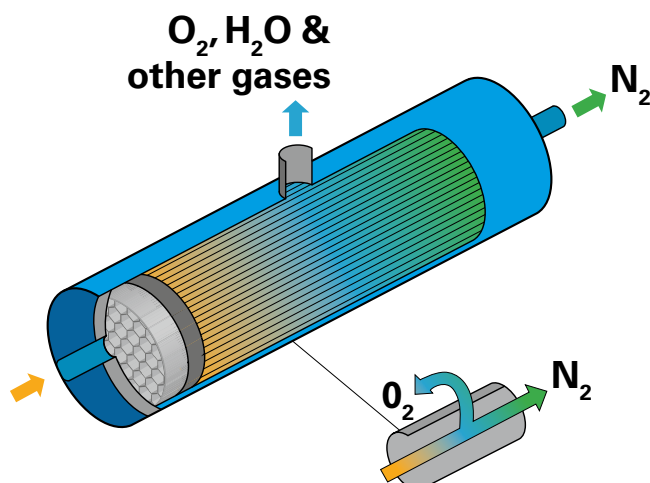
The generator separates air into component gases by passing inexpensive compressed air through semi-permeable membranes consisting of bundles of individual hollow fibers. Each fiber has a perfectly circular cross-section and a uniform bore through its center.

Because the fibers are so small, a great many can be packed into a limited space, providing an extremely large membrane surface area that can produce a relatively high volume product stream.

## OUTSTANDINGLY DRY NITROGEN

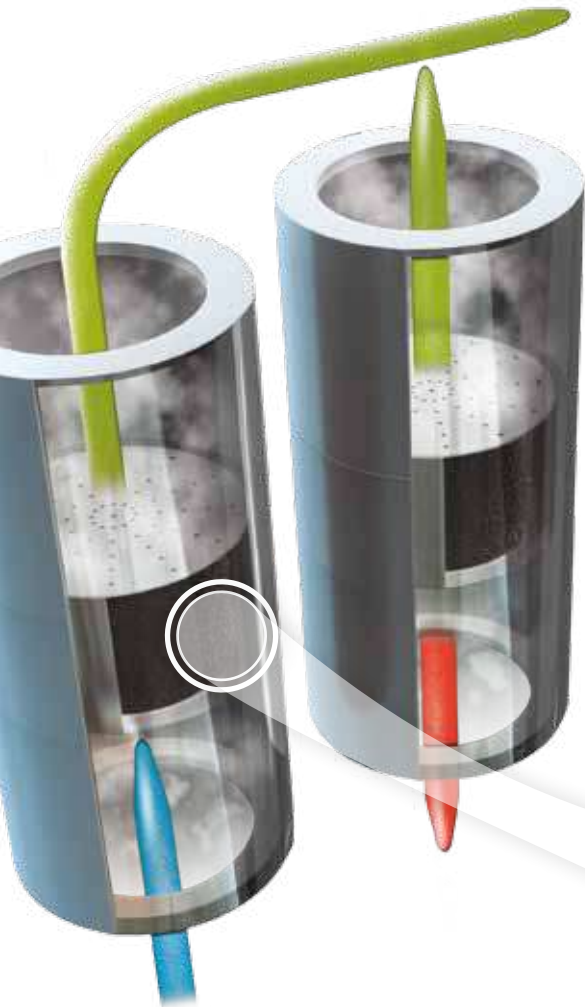
Compressed air is introduced into the center of the fibers at one end of the module and contacts the membrane as it flows through the fiber bores. Oxygen, water vapor and other trace gases easily permeate the membrane fiber and are discharged

through a permeate port while the nitrogen is contained within the membrane and flows through the outlet port. Since water vapor permeates through the membrane as well, the nitrogen gas stream is very dry, with dewpoints as low as -40°C (-40°F).







# PSA: Reliable and proven

Based on Pressure Swing Adsorption (PSA) technology, Atlas Copco's NGP Nitrogen Generators and OGP Oxygen Generators provide a continuous flow of nitrogen and oxygen at desired purity.



## HIGH PURITY NITROGEN SUPPLY UP TO 99.999%

Atlas Copco's NGP Nitrogen Generators use Pressure Swing Adsorption technology to isolate nitrogen molecules from other molecules in compressed air. Oxygen, CO<sub>2</sub>, water vapor and other gases are adsorbed. The result is virtually pure nitrogen at the outlet of the generator. The NGP Series is a very cost-efficient source of nitrogen used in various industries like food and beverage, metal processing, electronics, and many others.

-  Clean and dry compressed air (pressurized)
-  Nitrogen gas (pressurized)
-  Oxygen exhaust (depressurized)
-  Adsorbent



1. Adsorbent.
2. Nitrogen (or oxygen) molecules trapped in the adsorbent.
3. Oxygen (or nitrogen) molecules passing through.

## FOR ALL YOUR OXYGEN NEEDS

The OGP Oxygen Generator works in a similar way, using Pressure Swing Adsorption technology to isolate oxygen molecules from other molecules in compressed air to leave high purity oxygen at the outlet of the generator. The OGP Series provides cost-efficient oxygen for applications such as waste water treatment, ozone production, health care, and the glass industry.

# Total solutions from Atlas Copco

With a full range of nitrogen and oxygen generators to choose from, Atlas Copco brings you the right supply of nitrogen and oxygen to meet your specific needs and optimize your production process at the same time.

## A UNIQUE OFFER

On-site nitrogen and oxygen generation requires the most reliable and efficient compressed air solution. Drawing on vast experience, Atlas Copco has been leading the industry in compressed air technology for decades. From advanced compressors and quality air

solutions over a complete range of nitrogen and oxygen generators to aftermarket and financing services, Atlas Copco brings you its world-class expertise in a unique offer.



Typical installation: compressor with integrated dryer, receiver, NGM nitrogen generator, receiver.

NGM (Membrane)



## OIL-FREE COMPRESSORS

Atlas Copco, pioneer in the development of oil-free air technology, offers a full range of premium compressors delivering 100% oil-free, clean air to protect the membrane or absorbent in nitrogen generators. There is no need for extra filtration, making sure the pressure drop is kept to a minimum.





## OIL-INJECTED COMPRESSORS

Integrated onto the production floor, Atlas Copco's oil-injected compressors provide a dependable flow of compressed air directly to the point of use. Built to perform in harsh environments, Atlas Copco compressors keep your production running smoothly and reliably: a very economical solution in combination with nitrogen and oxygen generators.



## AIR TREATMENT

Atlas Copco has innovatively developed and improved air compression and drying techniques. Whatever your installation, application or quality requirements, Atlas Copco can offer the right air treatment solution, such as dryers (desiccant, reffridgerant, membrane) and filters (coalescing, particle, active carbon).



NGP (PSA)

*Typical installation: compressor with integrated dryer, pre-filters, Active Carbon Tower QDT, receiver, NGP nitrogen PSA generator, after-filter, receiver.*

# NGM nitrogen generators

Based on innovative membrane technology, Atlas Copco's NGM Nitrogen Generators are flexible enough to adapt to your specific applications. And with low operating costs they offer an excellent return on investment.

## Ready to use

- Robust design.
- No specialist installation or commissioning.
- Fitted with pre-filtration, pressure gauges and flow meter to ensure accurate system monitoring at all times.

## Cost savings

- Low operating expenses.
- No additional costs such as order processing, refills and delivery charges.
- Limited maintenance costs.

## Exceptional convenience

- Continuous availability (24 hours a day, 7 days a week).
- Risk of production breakdown due to gas running out is eliminated.

## All-in-one

- Fully integrated package.
- Filters and oxygen sensor as standard.

## High flow capacity

Ideal for applications such as fire prevention, tire inflation, oil & gas, marine, packaging and many more.



# NGP (nitrogen) & OGP (oxygen)

Atlas Copco's NGP and OGP nitrogen and oxygen generators are easy to install and use. They offer the required purity with a high flow capacity, making them suitable for a range of applications.

## High flow capacity

The wide product range and gas flows exceeding 2,000 Nm<sup>3</sup>/h (NGP) make these generators ideal for a variety of demanding applications.

## Exceptional reliability

- Robust design.
- Continuous availability (24 hours a day, 7 days a week).
- Potential risk of production breakdown due to gas running out is eliminated.

## Desired purity

- NGP: nitrogen concentrations from 95% to 99.999%.
- OGP: oxygen concentrations from 90% to 95%.

## Ready to use

- Only requires a supply of dry compressed air.
- Plug-and-play.
- No specialist installation or commissioning.
- Fully automated and monitored including oxygen sensor as standard.
- Service-friendly.

## Cost savings

- Low operating expenses.
- No additional costs such as order processing, refills and delivery charges.
- Limited maintenance costs.



# Superior monitoring and control

You can rely on Atlas Copco's nitrogen and oxygen generators to perform efficiently day in, day out. To guarantee maximum uptime, continuous surveillance is a must.



## PEACE OF MIND

By properly monitoring your nitrogen/oxygen system you cannot only decrease downtime but also save energy and reduce maintenance. The nitrogen and oxygen generators come with the following advanced control unit:

- 3.5-inch high-definition color display with clear pictograms and extra 4th LED indicator for service.
- 2 analogue parameters (Purity & Pressure), with the opportunity to expand with more analogue components.
- Increased reliability: user-friendly, multilingual user interface and durable keyboard.
- Graphical indication Serviceplan.
- Password protected operation parameters.
- Graphic log view on analogue parameters.
- Process illustration with valve cycle indication, graph showing pressure and current operation values.
- Remote control and connectivity functions.



# Your one-stop shop for O<sub>2</sub> and N<sub>2</sub>

From custom designed equipment to rental contracts, and from financing solutions to service kits, Atlas Copco is your one-stop global shop for all your compressed air, nitrogen and oxygen requirements.

## **CUSTOM*Design***

Atlas Copco's Custom*Design* provides bespoke compressors and systems to operate, often in remote locations, at extreme temperatures or in harsh environments. These teams draw on over 100 years of compressor development geared to creating efficient, innovative and value-packed products.



## **RENT YOUR EQUIPMENT**

Atlas Copco Specialty Rental offers the largest fleet of 100% oil-free diesel and electric compressors in the world. In addition you can rent a wide range of

generators as well as nitrogen and oxygen equipment to meet your requirements.

## **SINGLE SOURCE SPARE PARTS**

From now on you can rely on one single source for all your spare parts. When installed by an Atlas Copco technician, his experience and training will keep

downtime to the minimum and ensure your equipment is kept in top condition.

## **CUSTOMER FINANCING SOLUTION**

Offering a one-stop solution, Atlas Copco Customer Finance makes it easier for you to complete your investment in Atlas Copco equipment. We provide

competitive rates and the possibility to choose from flexible solutions to suit your needs.

## **IDEAL FOR A WIDE RANGE OF APPLICATIONS**

- Marine
- Oil and gas
- Power generation
- Food



# Options

Some applications may require or benefit from additional options and more refined control and nitrogen/oxygen treatment systems. To meet these needs, Atlas Copco has developed options and easily integrated compatible equipment providing the lowest cost nitrogen and oxygen generation.

## NGM SERIES

- Permeate vent kit.
- Oil indicator.
- PDP sensor.
- Flow sensor.



## NGP SERIES

- N<sub>2</sub> flow meter.
- Inlet PDP measurement/alarm.



## OGP SERIES

- O<sub>2</sub> flow meter.
- Inlet PDP measurement/alarm.



# NGM Series: Technical Specifications

NGM TYPE	Nitrogen purity				Dimensions (W x D x H)		Weight	
		95%	96%	97%	mm	in	kg	lbs
NGM 1	FND l/s	0.9	0.8	0.6	820 x 772 x 2090	32.3 x 30.4 x 82.3	259	571
	FND m³/h	3.3	2.7	2.1				
	FND cfm	1.9	1.7	1.3				
NGM 2	FND l/s	1.9	1.5	1.2	820 x 772 x 2090	32.3 x 30.4 x 82.3	268	591
	FND m³/h	6.7	5.4	4.2				
	FND cfm	4	3.2	2.5				
NGM 3	FND l/s	3.3	2.7	2.1	820 x 772 x 2090	32.3 x 30.4 x 82.3	285	628
	FND m³/h	11.7	9.6	7.6				
	FND cfm	7.0	5.7	4.4				
NGM 4	FND l/s	6.5	5.4	4.2	820 x 1470 x 2090	32.3 x 57.9 x 82.3	445	981
	FND m³/h	23.3	19.3	15.2				
	FND cfm	13.8	11.4	8.9				
NGM 5	FND l/s	9.7	8.0	6.3	820 x 1470 x 2090	32.3 x 57.9 x 82.3	497	1096
	FND m³/h	35.0	28.9	22.8				
	FND cfm	20.5	16.9	13.3				
NGM 6	FND l/s	13.0	10.7	8.4	820 x 1470 x 2090	32.3 x 57.9 x 82.3	535	1179
	FND m³/h	46.7	38.5	30.3				
	FND cfm	27.5	22.7	17.8				
NGM 7	FND l/s	16.2	13.3	10.5	820 x 1470 x 2090	32.3 x 57.9 x 82.3	571	1259
	FND m³/h	58.3	48.1	37.9				
	FND cfm	34.3	28.2	22.2				

## FND: Free Nitrogen Delivery

### Reference conditions:

Compressed air effective inlet pressure: 8 bar(g)/116 psi(g).

Nitrogen outlet pressure: 6.5 bar(g)/94 psi(g).

Ambient air temperature: 20°C/68°F

Pressure dewpoint inlet air: 3°C/37°F

Pressure dewpoint nitrogen: -40°C/-40°F

Unit inlet air quality 1.4.1 according to ISO 8573-1:2010.

Minimum refrigerant dryer required to precondition inlet air.

Typical nitrogen quality 1.2.1 according to ISO 8573-1:2010.

### Operating limits:

Minimum ambient temperature: 5°C/41°F

Maximum ambient temperature: 50°C/122°F

Maximum compressed inlet air pressure 13 bar(g)/189 psi(g).



## NGM 1-7

Please check the table above for detailed dimensions.

# NGP Series: Technical Specifications

NGP TYPE	Nitrogen purity FND (Free Nitrogen Delivery)										Dimensions (W x D x H)		Weight	
		95%	97%	98%	99%	99.50%	99.90%	99.95%	99.99%	99.999%	mm	in	kg	lbs
NGP 4	FND l/s	2.8	2.2	1.8	1.4	1.2	0.8	0.5	0.5	0.2	720 x 600 x 1530	28.3 x 26.6 x 60.2	100	220
	FND m³/h	10.0	7.9	6.6	5.0	4.3	2.7	2.3	2.3	0.7				
	FND cfm	5.9	4.7	3.8	3.0	2.5	1.7	1.1	1.1	0.4				
NGP 9	FND l/s	5.8	4.4	4.0	2.8	2.5	1.7	1.1	0.8	0.5	720 x 600 x 1530	28.3 x 26.6 x 60.2	140	308
	FND m³/h	20.9	15.8	14.2	10.2	9.2	6.1	5.0	3.1	1.6				
	FND cfm	12.3	9.3	8.5	5.9	5.3	3.6	2.3	1.7	1.1				
NGP 11	FND l/s	7.9	6.2	5.7	4.2	3.2	2.4	1.4	1.3	0.7	720 x 600 x 1550	28.3 x 26.6 x 61.0	160	353
	FND m³/h	28.5	22.4	20.3	15.3	11.4	8.6	6.2	4.7	2.5				
	FND cfm	16.7	13.1	12.1	8.9	6.8	5.1	3.0	2.8	1.5				
NGP 15	FND l/s	8.8	7.1	6.4	4.8	4.2	2.5	2.0	1.6	0.8	750 x 750 x 1811	28.3 x 28.3 x 71.3	230	507
	FND m³/h	31.5	25.4	22.9	17.3	15.3	9.2	8.7	5.6	3.1				
	FND cfm	18.6	15.0	13.6	10.2	8.9	5.3	4.2	3.4	1.7				
NGP 21	FND l/s	12.7	10.2	9.0	7.1	5.9	3.5	2.5	1.7	1.0	750 x 750 x 1811	28.3 x 28.3 x 71.3	230	507
	FND m³/h	45.8	36.6	32.6	25.4	21.4	12.7	11.2	7.4	4.3				
	FND cfm	26.9	21.6	19.1	15.0	12.5	7.4	5.3	3.6	2.1				
NGP 30	FND l/s	20.4	16.7	14.3	11.0	8.5	5.5	4.0	2.4	1.2	800 x 850 x 1620	31.5 x 33.5 x 63.8	400	882
	FND m³/h	73.3	59.0	51.4	39.7	30.5	19.8	17.5	8.6	4.3				
	FND cfm	43.2	35.4	30.3	23.3	18.0	11.6	8.5	5.1	2.5				
NGP 40	FND l/s	25.4	20.6	17.9	13.9	11.3	6.9	5.1	3.4	1.7	800 x 850 x 2105	31.5 x 33.5 x 82.9	440	970
	FND m³/h	91.6	74.1	64.3	50.1	40.7	24.8	22.4	12.2	6.1				
	FND cfm	53.8	43.6	37.9	29.4	23.9	14.6	10.8	7.2	3.6				
NGP 47	FND l/s	29.7	23.5	20.6	16.1	13.3	8.2	5.9	3.7	1.9	800 x 1120 x 2000	31.5 x 44.1 x 78.7	750	1653
	FND m³/h	106.8	84.4	74.3	58.0	47.8	29.5	26.0	13.2	6.9				
	FND cfm	62.9	49.8	43.6	34.1	28.2	17.4	12.5	7.8	4.0				
NGP 62	FND l/s	36.7	31.1	26.9	20.9	17.5	10.5	7.6	4.8	2.1	800 x 1120 x 2000	31.5 x 44.1 x 78.7	750	1653
	FND m³/h	132.3	111.9	96.6	75.3	63.1	37.6	33.5	17.3	7.6				
	FND cfm	77.7	65.9	57.0	44.3	37.1	22.2	16.1	10.2	4.4				
NGP 73	FND l/s	43.8	36.2	31.4	24.6	20.6	12.2	9.0	5.7	3.1	860 x 1190 x 2299	33.9 x 46.9 x 90.5	900	1984
	FND m³/h	157.7	130.2	112.9	88.5	74.3	43.7	39.7	20.3	11.2				
	FND cfm	92.8	76.7	66.5	52.1	43.6	25.8	19.1	12.1	6.6				
NGP 92	FND l/s	56.5	47.2	41.0	32.5	26.0	15.5	11.3	7.1	4.0	860 x 1330 x 2299	33.9 x 52.4 x 90.5	1150	2535
	FND m³/h	203.5	169.9	147.5	117.0	93.6	56.0	49.6	31.0	17.3				
	FND cfm	119.7	100.0	86.8	68.8	55.1	32.8	23.9	15.0	8.5				
NGP 112	FND l/s	67.8	55.1	48.0	37.9	31.7	18.7	14.1	9.9	5.7	1000 x 1640 x 2480	39.4 x 64.6 x 97.6	1850	4079
	FND m³/h	244.2	198.4	173.0	136.3	113.9	67.1	62.1	35.6	20.3				
	FND cfm	143.6	116.7	101.7	80.3	67.1	39.6	29.9	21.0	12.1				
NGP 185	FND l/s	113.0	90.4	79.1	61.6	52.3	36.7	31.1	19.2	8.5	1000 x 1765 x 2530	39.4 x 69.5 x 99.6	2150	4740
	FND m³/h	406.9	325.6	284.9	221.8	188.2	132.3	136.3	69.2	30.5				
	FND cfm	239.3	191.5	167.5	130.5	110.8	77.7	65.9	40.7	18.0				
NGP 250	FND l/s	161.1	127.2	102.0	86.2	70.7	48.0	35.3	24.0	10.2	1000 x 1965 x 2970	39.4 x 77.4 x 117.0	3200	7055
	FND m³/h	579.9	457.8	367.3	310.3	254.3	173.0	155.7	86.5	36.6				
	FND cfm	341.2	269.4	216.0	182.6	149.7	101.7	74.8	50.8	21.6				
NGP 420	FND l/s	274.1	214.8	175.2	147.0	118.7	79.1	57.9	39.6	17.2	1240 x 2520 x 3160	48.8 x 99.2 x 124.4	4200	9259
	FND m³/h	986.8	773.2	630.8	529.0	427.3	284.9	254.3	142.2	62.1				
	FND cfm	580.5	454.9	371.1	311.3	251.4	167.5	122.6	83.9	36.4				
NGP 550	FND l/s	353.2	279.8	233.2	195.0	154.0	107.4	82.0	54.3	22.9	1420 x 2880 x 3330	55.9 x 113.4 x 131.1	4900	10803
	FND m³/h	1271.7	1007.2	839.3	702.0	554.5	386.6	360.1	195.3	82.4				
	FND cfm	748.1	592.6	493.9	413.0	326.2	227.5	173.7	115.0	48.5				
NGP 900	FND l/s	551.1	409.8	353.3	296.7	254.3	163.9	121.5	84.8	34.5	2480 x 2520 x 3160	97.6 x 99.2 x 124.4	8400	18519
	FND m³/h	1983.9	1475.2	1271.7	1068.2	915.6	590.1	534.1	305.2	124.1				
	FND cfm	1167.2	868.0	748.3	628.4	538.6	347.1	257.3	179.6	73.1				
NGP 1100	FND l/s	734.8	565.2	452.2	381.5	310.9	197.8	144.1	107.4	36.7	2840 x 2880 x 3330	111.8 x 113.4 x 131.1	9800	21605
	FND m³/h	2645.1	2034.7	1627.8	1373.4	1119.1	712.2	632.8	386.6	132.3				
	FND cfm	1556.3	1197.1	957.8	808.0	658.5	418.9	305.2	227.5	77.7				

**FND: Free Nitrogen Delivery**

**Reference conditions:**

Compressed air effective inlet pressure: 7.5 bar(g)/108 psi(g).

Nitrogen outlet pressure: 6 bar(g)/87 psi(g).

Ambient air temperature: 20°C/68°F

Pressure dewpoint inlet air: 3°C/37°F

Pressure dewpoint nitrogen: -50°C/-58°F

Unit inlet air quality 1.4.1 according to ISO 8573-1:2010.

Minimum refrigerant dryer required to precondition inlet air.

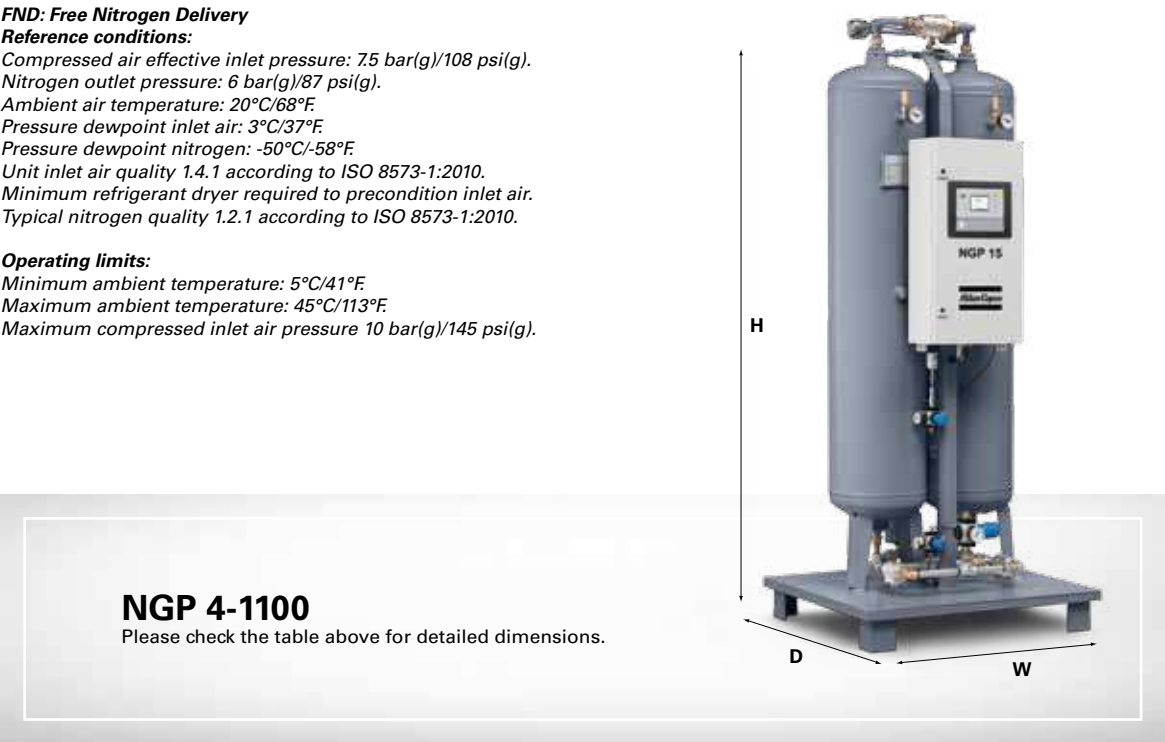
Typical nitrogen quality 1.2.1 according to ISO 8573-1:2010.

**Operating limits:**

Minimum ambient temperature: 5°C/41°F

Maximum ambient temperature: 45°C/113°F

Maximum compressed inlet air pressure 10 bar(g)/145 psi(g).



**NGP 4-1100**

Please check the table above for detailed dimensions.



# OGP Series: Technical Specifications

OGP TYPE	Oxygen purity FOD (Free Oxygen Delivery)				Dimensions (W x D x H)		Weight	
		90%	93%	95%	mm	in	kg	lbs
OGP 2	FOD, l/s	0.6	0.5	0.4	600 x 600 x 1550	23.6 x 23.6 x 61.0	100	220
	FOD, m³/h	2.1	1.6	1.5				
	FOD cfm	1.3	1.1	0.8				
OGP 3	FOD, l/s	0.9	0.7	0.7	600 x 600 x 1600	23.6 x 23.6 x 63.0	150	331
	FOD, m³/h	3.2	2.5	2.5				
	FOD cfm	1.9	1.5	1.5				
OGP 4	FOD, l/s	1.1	1.0	0.9	600 x 600 x 1650	23.6 x 23.6 x 65.0	180	397
	FOD, m³/h	4.0	3.6	3.2				
	FOD cfm	2.3	2.1	1.9				
OGP 5	FOD, l/s	1.3	1.2	1.1	700 x 700 x 1900	27.6 x 27.6 x 74.8	230	507
	FOD, m³/h	4.7	4.3	4.0				
	FOD cfm	2.8	2.5	2.3				
OGP 6	FOD, l/s	1.8	1.6	1.5	800 x 900 x 1750	31.5 x 35.4 x 68.9	400	882
	FOD, m³/h	6.5	5.8	5.4				
	FOD cfm	3.8	3.4	3.2				
OGP 8	FOD, l/s	2.2	2.0	1.9	800 x 900 x 1750	31.5 x 35.4 x 68.9	700	1543
	FOD, m³/h	7.9	7.2	6.8				
	FOD cfm	4.7	4.2	4.0				
OGP 10	FOD, l/s	2.7	2.5	2.3	900 x 1200 x 2100	35.4 x 47.2 x 82.7	950	2094
	FOD, m³/h	9.7	9.0	8.3				
	FOD cfm	5.7	5.3	4.9				
OGP 14	FOD, l/s	4.0	3.7	3.4	900 x 1200 x 2100	35.4 x 47.2 x 82.7	950	2094
	FOD, m³/h	14.4	13.3	12.2				
	FOD cfm	8.5	7.8	7.2				
OGP 18	FOD, l/s	4.3	5.1	5.1	900 x 1300 x 2400	35.4 x 51.1 x 94.5	1150	2535
	FOD, m³/h	15.5	18.4	18.4				
	FOD cfm	9.1	10.8	10.8				
OGP 20	FOD, l/s	5.7	5.4	5.1	1000 x 1300 x 2400	39.4 x 51.1 x 94.5	1150	2535
	FOD, m³/h	20.5	19.4	18.4				
	FOD cfm	12.1	11.4	10.8				
OGP 23	FOD, l/s	6.5	5.9	5.7	1000 x 1300 x 3200	39.4 x 51.1 x 126.0	1350	2976
	FOD, m³/h	23.4	21.2	20.5				
	FOD cfm	13.8	12.5	12.1				
OGP 29	FOD, l/s	8.1	7.7	7.3	1000 x 2000 x 2500	39.4 x 78.7 x 98.4	1850	4079
	FOD, m³/h	29.2	27.7	26.3				
	FOD cfm	17.2	16.3	15.5				
OGP 35	FOD, l/s	9.8	9.2	8.8	1000 x 2000 x 2500	39.4 x 78.7 x 98.4	2150	4740
	FOD, m³/h	35.3	33.1	31.7				
	FOD cfm	20.8	19.5	18.6				
OGP 45	FOD, l/s	12.6	11.9	10.9	1000 x 2000 x 3400	39.4 x 78.7 x 134.0	3500	7716
	FOD, m³/h	45.4	42.8	39.2				
	FOD cfm	26.7	25.2	23.1				
OGP 55	FOD, l/s	15.5	14.4	13.6	1000 x 2000 x 3400	39.4 x 78.7 x 134.0	3500	7716
	FOD, m³/h	55.8	51.8	49.0				
	FOD cfm	32.8	30.5	28.8				
OGP 65	FOD, l/s	18.4	17.8	15.8	1000 x 2000 x 3400	39.4 x 78.7 x 134.0	3500	7716
	FOD, m³/h	66.2	64.1	56.9				
	FOD cfm	39.0	37.7	33.5				
OGP 84	FOD, l/s	23.7	22.0	20.6	2400 x 2200 x 3200	94.5 x 86.6 x 126.0	4200	9259
	FOD, m³/h	85.3	79.2	74.2				
	FOD cfm	50.2	46.6	43.6				
OGP 105	FOD, l/s	29.7	28.3	26.0	2400 x 2400 x 3300	94.5 x 94.5 x 130.0	4900	10803
	FOD, m³/h	106.9	101.9	93.6				
	FOD cfm	62.9	59.9	55.1				
OGP 160	FOD, l/s	43.8	43.0	39.9	4000 x 4000 x 3200	157.5 x 157.5 x 126.0	8000	17637
	FOD, m³/h	157.7	154.8	143.6				
	FOD cfm	92.8	91.1	84.5				
OGP 200	FOD, l/s	56.6	52.3	48.6	4000 x 4000 x 3300	157.5 x 157.5 x 130.0	9400	20723
	FOD, m³/h	203.8	188.3	175.0				
	FOD cfm	119.9	110.8	102.9				

## FOD: Free Oxygen Delivery

### Reference conditions:

Compressed air effective inlet pressure: 7.5 bar(g)/108 psi(g).

Oxygen outlet pressure: 5 bar(g)/72 psi(g).

Ambient air temperature: 20°C/68°F

Pressure dewpoint inlet air: 3°C/37°F

Pressure dewpoint oxygen -50°C/-58°F

Unit inlet air quality 1.4.1 according to ISO 8573-1:2010.

Minimum refrigerant dryer required to precondition inlet air.

Typical oxygen quality 1.2.1 according to ISO 8573-1:2010.

### Operating limits:

Minimum ambient temperature: 5°C/41°F

Maximum ambient temperature: 45°C/113°F

Maximum compressed inlet air pressure 10 bar(g)/145 psi(g).

## OGP 2-200

Please check the table above for detailed dimensions.





### **Driven by innovation**

With more than 140 years of innovation and experience, Atlas Copco will deliver the products and services to help maximize your company's efficiency and productivity. As an industry leader, we are dedicated to offering high air quality at the lowest possible cost of ownership. Through continuous innovation, we strive to safeguard your bottom line and bring you peace of mind.



### **Building on interaction**

As part of our long-term relationship with our customers, we have accumulated extensive knowledge of a wide diversity of processes, needs and objectives. This gives us the flexibility to adapt and efficiently produce customized compressed air solutions that meet and exceed your expectations.



### **A committed business partner**

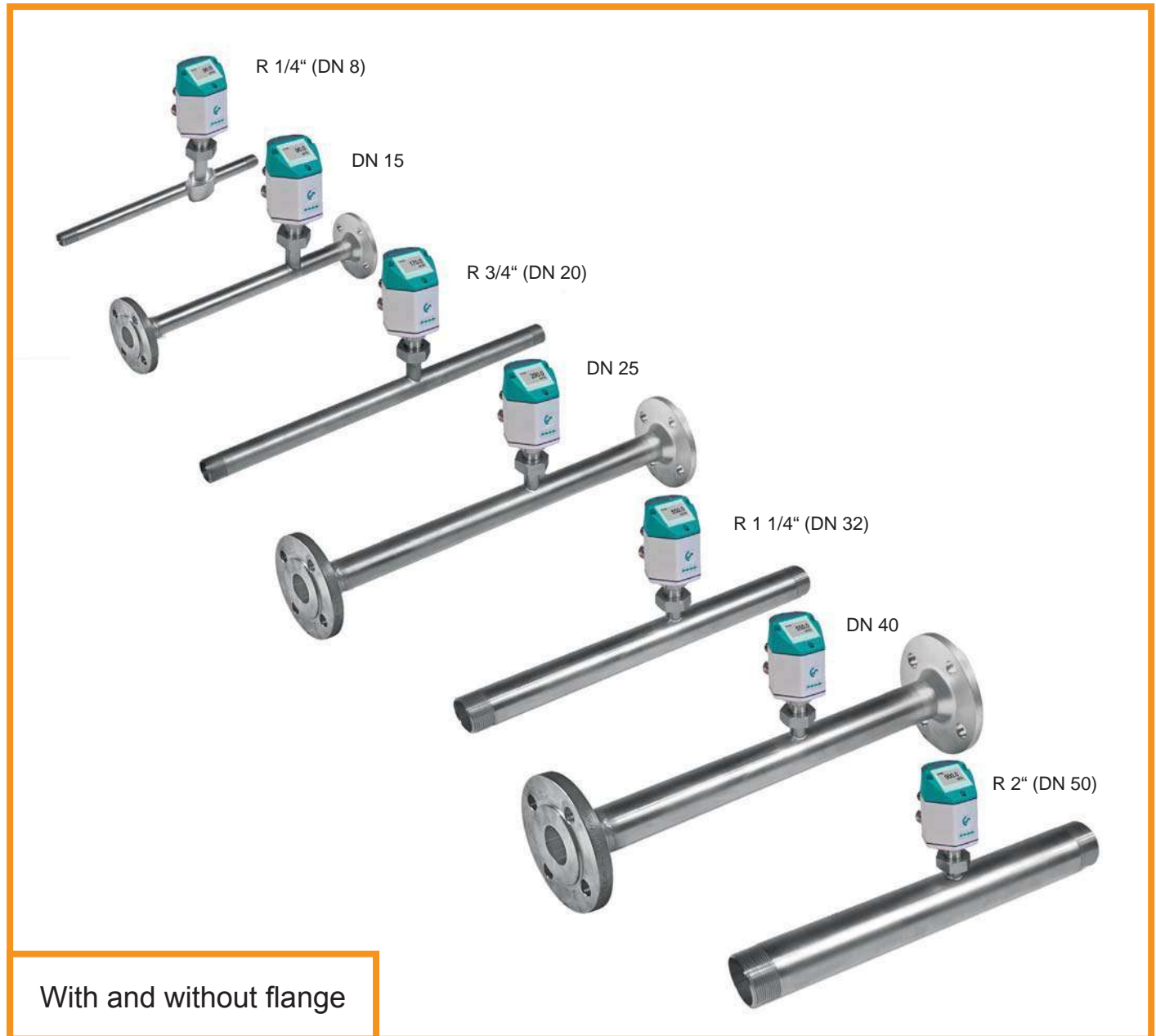
With a presence in over 180 countries, we will deliver high-quality customer service anywhere, anytime. Our highly skilled technicians are available 24/7 and are supported by an efficient logistics organization, ensuring fast delivery of genuine spare parts when you need them. We are committed to providing the best possible know-how and technology to help your company produce, grow, and succeed. With Atlas Copco you can rest assured that your superior productivity is our first concern!





## VA 420

### The affordable flow meter for compressed air and gases



#### Intelligent solutions for accurate flow measurement for compressed air and gases

The new affordable flow meters VA 420 work according to the approved calorimetric measuring principle. In this process a heated sensor is cooled down by the gas circulating around it. The flow dependent cooling-down

is used as a measuring effect while the degree of cooling-down is directly depending on the passing air resp. gas mass. Therefore, an additional pressure and temperature compensation is not necessary.

Due to its compact design it is possible to monitor all compressed air systems from the compressor to the smallest compressed air tool (1/4" to 2 inch) with the affordable flow meter VA 420. VA 400 flow sensors are available for larger pipe diameters from DN 50 to

DN 300. Apart from compressed air also other gases like e.g. nitrogen, oxygen and CO<sub>2</sub> can be measured.

The installation of the compressed air flow meter VA 420 can be done easily and quickly. A special advantage is the removable measuring device. The measuring device can be demounted quickly and easily for calibration or cleaning purposes without removing the complete measuring section.

## Removal of the measuring device without complete dismounting of the measuring section



In most cases the compressed air is not free from oil, condensate, dirt and particles. In the course of time this leads to a soiling of the flow meters which may cause errors in mea-

surement or even a total breakdown. The flow meters which have been on the market up to now generally cannot be cleaned and will be exchanged if they are soiled. In case

of compressed air meters with integrated measuring section the „measuring device“ cannot be removed. For this reason an expensive bypass line is necessary.

The design of **VA 420** enables the removal and cleaning of the „measuring device“ with e.g. soap water without any dismounting of the measuring section. A closing cap grants a continuous use of the line for the duration of the cleaning. A bypass line is not necessary. The alignment pin grants an accurate installation of the measuring device.

## 2 Stationary use



For stationary use there are the following outputs available for the data transfer to a building management system or PLC:

4...20 mA for actual flow.

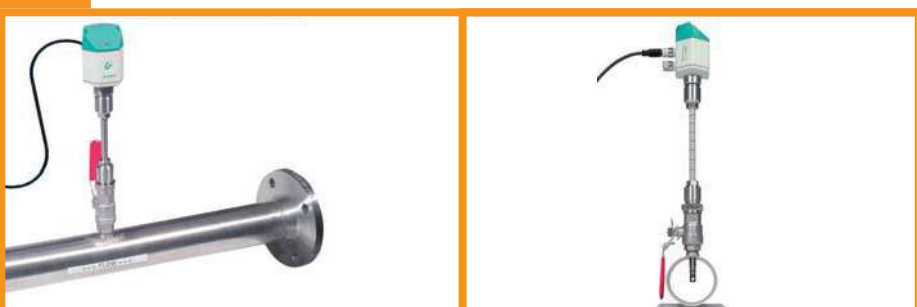
Pulse output (galvanically separated) for the total consumption.

## 3 Mobile use



By means of quick couplings the flow meter can be integrated quickly into the feed hose of a machine. During the shutdown of the machine it is possible to determine the leak rate, the actual flow can be obtained when the machine is running. The power supply is effected via the power socket by means of the mains unit. For data recording over a longer period of time we recommend to use the compressed air analyzer DS 400 mobile

## 4 Solution for large pipe diameters

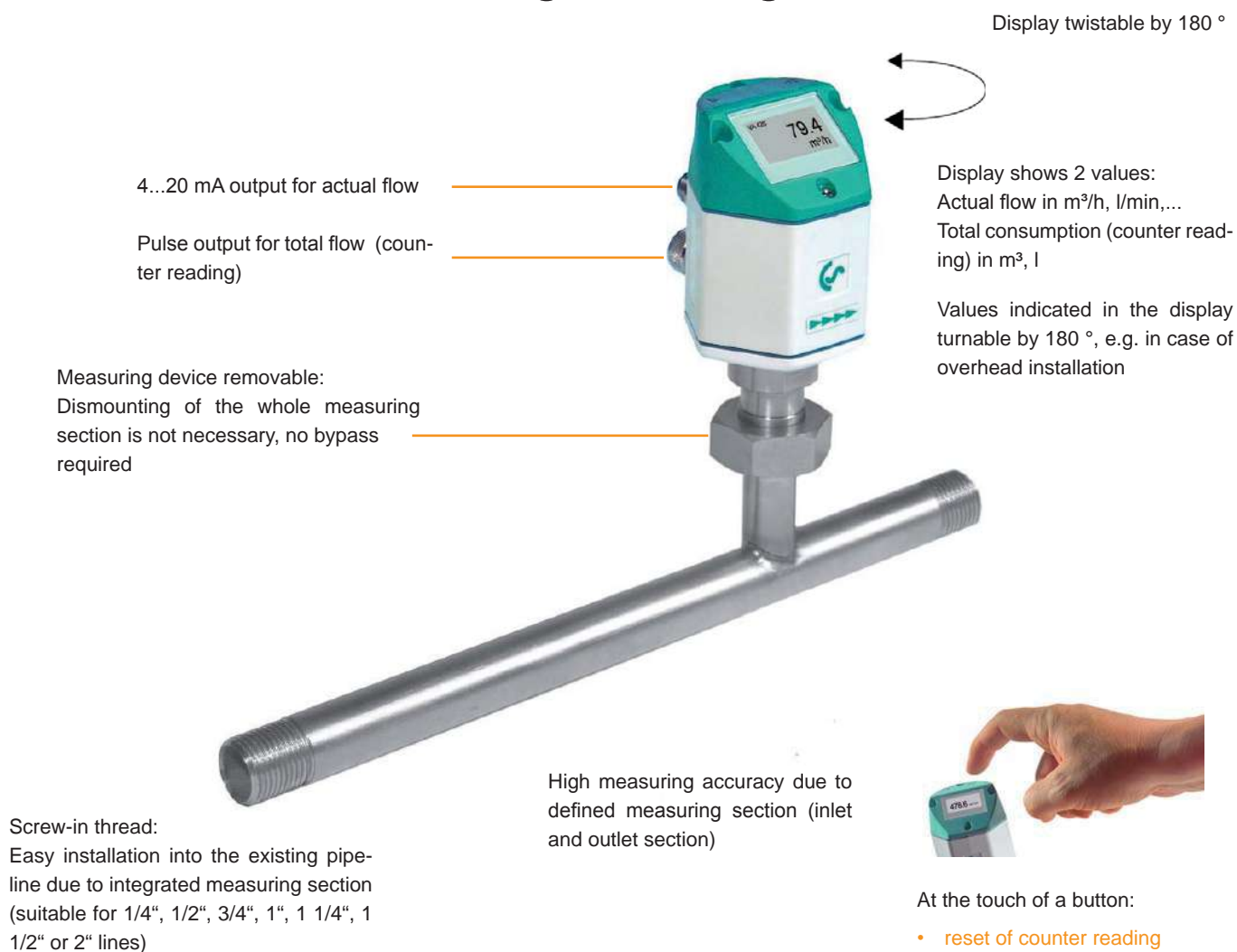


The approved flow sensor VA 400 is available for pipe diameters of 2" to DN 300. Its constructively sophisticated design enables the installation into pipes with nominal diameters up to DN 300 even under pressure. The installation is effected by means of standard 1/2" ball valve.





## VA 420 - The advantages at a glance

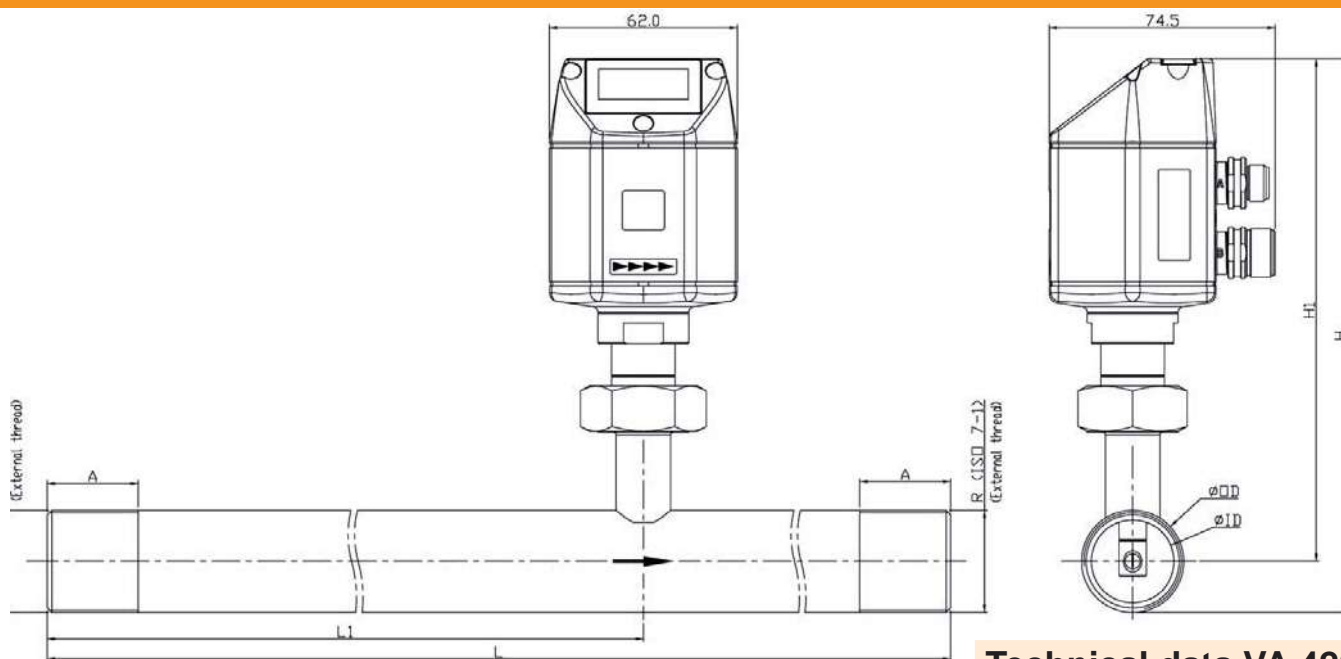


### Application-technological features of the flow meters VA 420:

- Easy and affordable installation
- Units freely selectable via keypad  $\text{m}^3/\text{h}$ ,  $\text{m}^3/\text{min}$ ,  $\text{l}/\text{min}$ ,  $\text{l}/\text{s}$ ,  $\text{kg}/\text{h}$ ,  $\text{kg}/\text{min}$ ,  $\text{kg}/\text{s}$ ,  $\text{cfm}$
- Compressed air counter up to 1,999,999,999  $\text{m}^3$ , Resetable to „zero“ via keypad
- Analogue output 4...20 mA, pulse output (galvanically separated)
- High measuring accuracy also in the lower measuring range (ideal for leakage measurement)
- Negligibly small loss of pressure
- Calorimetric measuring principle, no additional pressure and temperature measurement necessary, no mechanically moved parts
- Gas types adjustable via software (nitrogen, oxygen,  $\text{CO}_2$ , nitrous oxide, argon)

### Application range of VA 420:

- Compressed air balancing, compressed air consumption measurement
- Leakage air / leak rate determination
- Mobile compressed air measurement in front of single machines / plants
- Flow measurement of process gases like e.g. nitrogen,  $\text{CO}_2$ , oxygen, argon, nitrous oxide
- Flow measurement at nitrogen generators



#### Flow measuring ranges VA 420 for compressed air (ISO 1217:1000 mbar, 20 °C)

Connection thread	Outer pipe dia. mm	Inner pipe dia. mm	Measuring range from to	L mm	L1 mm	H mm	H1 mm	A mm
R 1/4"	13.7	8.9	0.8 90 l/min	194	137	174.7	165.7	15
R 1/2"	21.3	16.1	0.2 90 m³/h	300	210	176.4	165.7	20
R 3/4"	26.9	21.7	0.3 170 m³/h	475	275	179.2	165.7	20
R 1"	33.7	27.3	0.5 290 m³/h	475	275	182.6	165.7	25
R 1 1/4"	42.4	36.0	0.7 480 m³/h	475	275	186.9	165.7	25
R 1 1/2"	48.3	41.9	1.0 550 m³/h	475*	275	186.9	165.7	25
R 2"	60.3	53.1	2.0 900 m³/h	475*	275	195.9	165.7	30

\*Attention: Shortened inlet section! Please observe the recommended minimum inlet section (length = 10 x inner diameter) on site

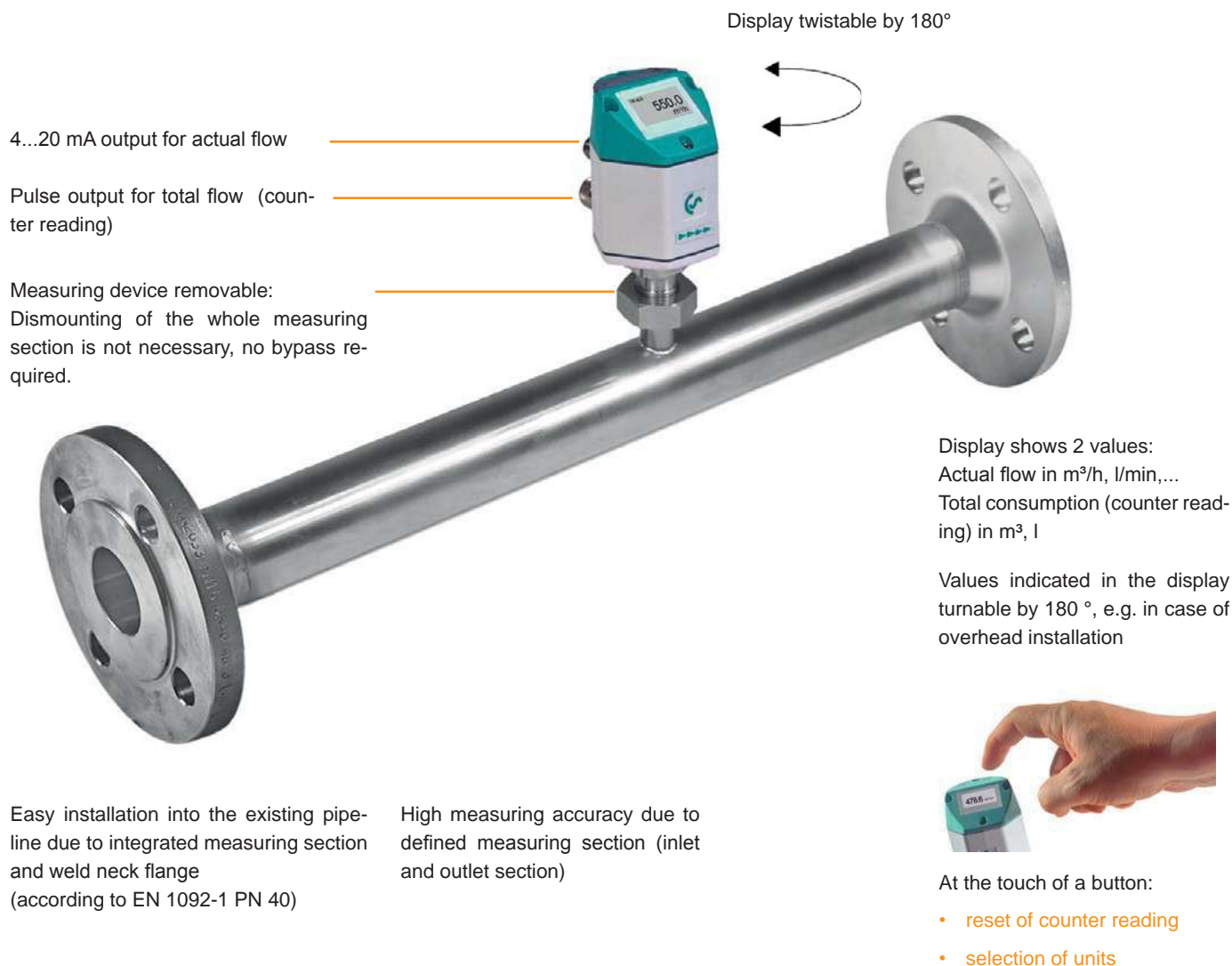
#### Technical data VA 420

<b>Parameters:</b>	m³/h, l/min (1000 mbar, 20°C) in case of compressed air resp. Nm³/h, NI/min (1013 mbar, 0°C) in case of gases
<b>Adjustable via keypad:</b>	m³/h, m³/min, l/min, l/s, ft/min, cfm, m/s, kg/h, kg/min
<b>Meas. principle:</b>	calorimetric measurement
<b>Sensor:</b>	2 x silicium chip
<b>Meas. medium:</b>	air, gases
<b>Gas types adjustable via software:</b>	air, nitrogen, argon, nitrous oxide, CO2, oxygen
<b>Meas. range:</b>	see table at the left
<b>Accuracy:</b>	± 1.5% of m.v., ± 0.05% of f.s. On request: Special calibration via 5 point ISO calibration certificate
<b>Operating temp.:</b>	-30...80 °C
<b>Operating press.:</b>	up to 16 bar Optional up to PN 40
<b>Analogue output:</b>	4...20 mA for m³/h resp. l/min
<b>Pulse output:</b>	1 pulse per m³ resp. per liter galvanically separated
<b>PC connection:</b>	SDI interface
<b>Power supply:</b>	24 VDC smoothed ± 15 %
<b>Burden:</b>	< 500 Ω
<b>Housing:</b>	polycarbonate
<b>Meas. section:</b>	stainless steel, 1.4301 or 1.4404
<b>Mounting thread meas. section:</b>	R 1/4", R 1/2", R 3/4", R 1", R 1 1/4", R 1 1/2", R 2" external thread

Description	Order No. Stainless steel 1.4404	Order No. Stainless steel 1.4301
VA 420 flow meter with integrated 1/4" measuring section	0695 1420	0695 0420
VA 420 flow meter with integrated 1/2" measuring section	0695 1421	0695 0421
VA 420 flow meter with integrated 3/4" measuring section	0695 1422	0695 0422
VA 420 flow meter with integrated 1" measuring section	0695 1423	0695 0423
VA 420 flow meter with integrated 1 1/4" measuring section	0695 1426	0695 0426
VA 420 flow meter with integrated 1 1/2" measuring section	0695 1424	0695 0424
VA 420 flow meter with integrated 2" measuring section	0695 1425	0695 0425
Option High-pressure version PN 40		Z695 0411
Special measuring range VA 420 according to customer's requirements		Z695 4006
<b>Connection cables:</b>		
Connection cable 5 m (power supply, analogue output)		0553 0104
Connection cable 10 m (power supply, analogue output)		0553 0105
Pulse cable for flow sensors with M12 plug, length 5 m		0553 0106
Pulse cable for flow sensors with M12 plug, length 10 m		0553 0107
<b>Further accessories:</b>		
Closing cap for meas. section VA 420 (Material: Aluminium)		0190 0001
Closing cap for meas. section VA 420 (Material: Stainless steel 1.4404)		0190 0002
CS Service Software for FA/VA 400 sensors incl. PC connection set, USB interface and interface adapter to the sensor		0554 2005
Mains unit in wall housing 100-240 V, 10 VA, 50-60 Hz/24 VDC, 0.35 A		0554 0108
Mains unit 100-240 VAC / 24 VDC, 0.35 A for VA/FA 400 Series, 2 m cable		0554 0107
5 point precision calibration with ISO certificate		3200 0001



## VA 420 - The advantages at a glance



Display twistable by 180°

4...20 mA output for actual flow

Pulse output for total flow (counter reading)

Measuring device removable:  
Dismounting of the whole measuring section is not necessary, no bypass required.

Display shows 2 values:  
Actual flow in m<sup>3</sup>/h, l/min,...  
Total consumption (counter reading) in m<sup>3</sup>, l

Values indicated in the display turnable by 180°, e.g. in case of overhead installation

Easy installation into the existing pipeline due to integrated measuring section and weld neck flange (according to EN 1092-1 PN 40)

High measuring accuracy due to defined measuring section (inlet and outlet section)

At the touch of a button:

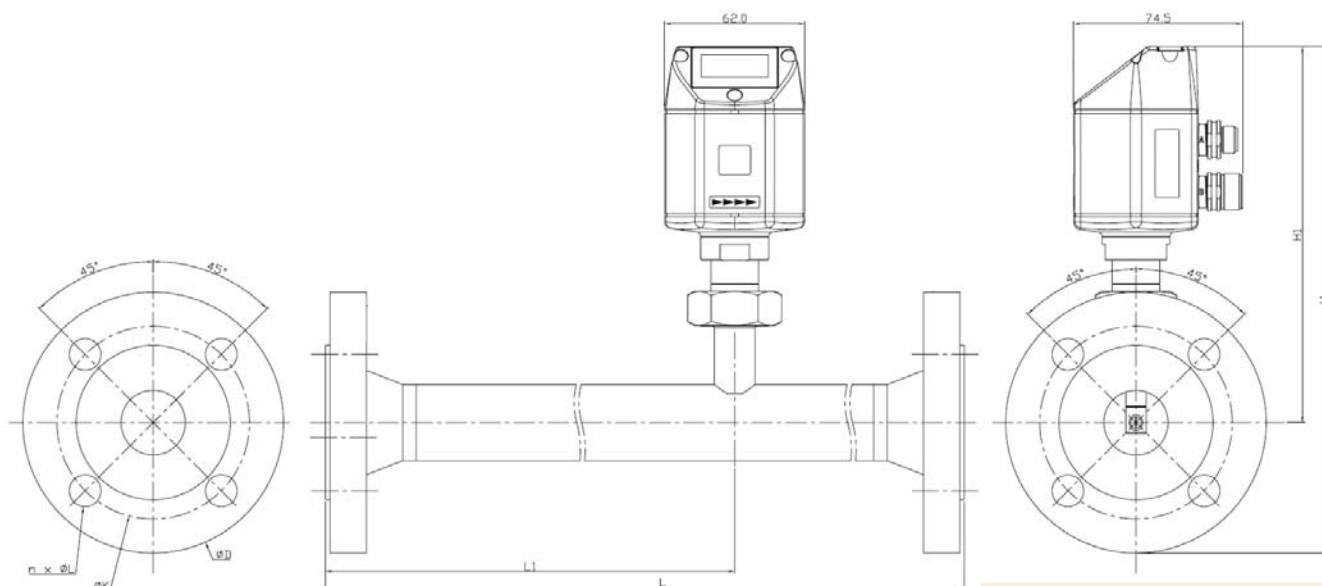
- reset of counter reading
- selection of units

### Application-technological features of the flow meters VA 420:

- Easy and affordable installation
- Units freely selectable via keypad m<sup>3</sup>/h, m<sup>3</sup>/min, l/min, l/s, kg/h, kg/min, kg/s, cfm
- Compressed air counter up to 1,999,999,999 m<sup>3</sup>, Resettable to „zero“ via keypad
- Analogue output 4...20 mA, pulse output (galvanically separated)
- High measuring accuracy also in the lower measuring range (ideal for leakage measurement)
- Negligibly small loss of pressure
- Calorimetric measuring principle, no additional pressure and temperature measurement necessary, no mechanically moved parts
- Gas types adjustable via software (nitrogen, oxygen, CO<sub>2</sub>, nitrous oxide, argon)

### Application range of VA 420:

- Compressed air balancing, compressed air consumption measurement
- Leakage air / leak rate determination
- Flow measurement of process gases like e.g. nitrogen, CO<sub>2</sub>, oxygen, argon, nitrous oxide
- Flow measurement at nitrogen generators



## Technical data VA 420

**Parameters:** m<sup>3</sup>/h, l/min (1000 mbar, 20°C) in case of compressed air resp. Nm<sup>3</sup>/h, NI/min (1013 mbar, 0°C) in case of gases

**Adjustable via keypad:** m<sup>3</sup>/h, m<sup>3</sup>/min, l/min, l/s, ft/min, cfm, m/s, kg/h, kg/min

**Meas. principle:** calorimetric measurement

**Sensor:** 2 x silicium chip

**Meas. medium:** air, gases

**Gas types adjustable via software:** air, nitrogen, argon, nitrous oxide, CO<sub>2</sub>, oxygen

**Meas. range:** see table at the left

**Accuracy:** ± 1.5% of m.v., ± 0.05% of f.s. On request: Special calibration via 5 point ISO calibration certificate

**Operating temp.:** -30...80 °C

**Operating press.:** up to 16 bar  
Optional up to PN 40

**Analogue output:** 4...20 mA for m<sup>3</sup>/h resp. l/min

**Pulse output:** 1 pulse per m<sup>3</sup> resp. per liter galvanically separated

**PC connection:** SDI interface

**Power supply:** 24 VDC smoothed ± 15 %

**Burden:** < 500 Ω

**Housing:** polycarbonate

**Meas. section:** stainless steel, 1.4301 or 1.4404

**Flanges:** Weld neck flange according to DIN EN 1092-1, Groove-faced and tongue-faced on request

### Flow measuring ranges VA 420 for compressed air (ISO 1217:1000 mbar, 20 °C)

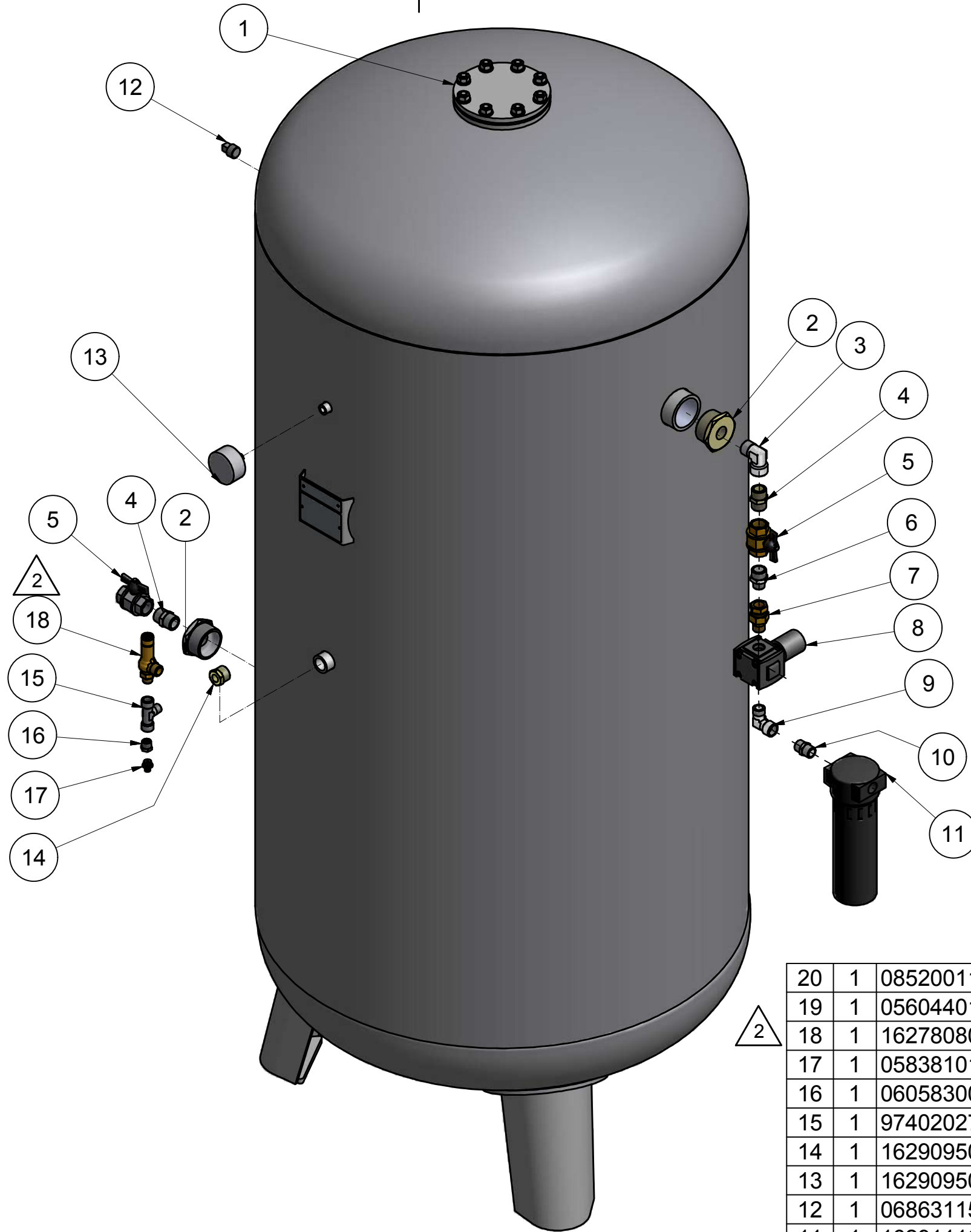
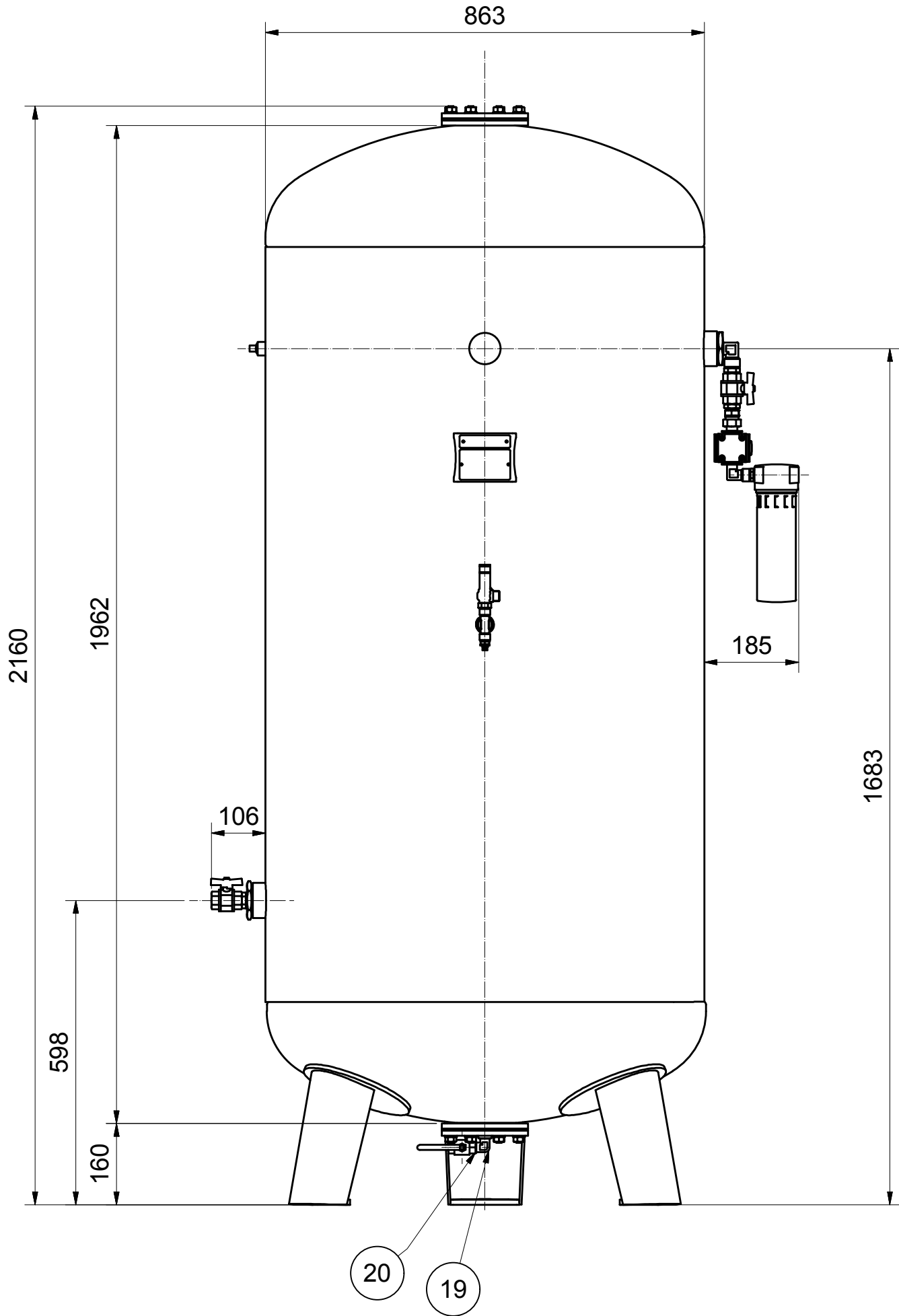
Measuring section	Outer pipe dia. mm	Inner pipe dia. mm	Measuring range from to	L mm	L1 mm	H mm	H1 mm	ØD	ØK	n x ØL
DN 15	21.3	16.1	0.2 90 m <sup>3</sup> /h	300	210	213.2	165.7	95	65	4 x 14
DN 20	26.9	21.7	0.3 170 m <sup>3</sup> /h	475	275	218.2	165.7	105	75	4 x 14
DN 25	33.7	27.3	0.5 290 m <sup>3</sup> /h	475	275	223.2	165.7	115	85	4 x 14
DN 32	42.4	36.0	0.7 480 m <sup>3</sup> /h	475	275	235.7	165.7	140	100	4 x 18
DN 40	48.3	41.9	1.0 550 m <sup>3</sup> /h	475*	275	240.7	165.7	150	110	4 x 18
DN 50	60.3	53.1	2.0 900 m <sup>3</sup> /h	475*	275	248.2	165.7	165	125	4 x 18

\*Attention: Shortened inlet section! Please observe the recommended minimum inlet section (length=10xinner diameter) on site

Description	Order No.
VA 420 flow meter with integrated DN 15 measuring section with weld neck flange	0695 2421
VA 420 flow meter with integrated DN 20 measuring section with weld neck flange	0695 2422
VA 420 flow meter with integrated DN 25 measuring section with weld neck flange	0695 2423
VA 420 flow meter with integrated DN 32 measuring section with weld neck flange	0695 2426
VA 420 flow meter with integrated DN 40 measuring section with weld neck flange	0695 2424
VA 420 flow meter with integrated DN 50 measuring section with weld neck flange	0695 2425
Option High-pressure version PN 40	Z695 0411
Special measuring range VA 420 according to customer's requirements	Z695 4006
<b>Connection cables:</b>	
Connection cable 5 m (power supply, analogue output)	0553 0104
Connection cable 10 m (power supply, analogue output)	0553 0105
Pulse cable for flow sensors with M12 plug, length 5 m	0553 0106
Pulse cable for flow sensors with M12 plug, length 10 m	0553 0107
<b>Further accessories:</b>	
Closing cap for meas. section VA 420 (Material: Aluminium)	0190 0001
Closing cap for meas. section VA 420 (Material: Stainless steel 1.4404)	0190 0002
CS Service Software for FA/VA 400 sensors incl. PC connection set, USB interface and interface adapter to the sensor	0554 2005
Mains unit in wall housing 100-240 V, 10 VA, 50-60 Hz/24 VDC, 0.35 A	0554 0108
Mains unit 100-240 VAC / 24 VDC, 0.35 A for VA/FA 400 Series, 2 m cable	0554 0107
5 point precision calibration with ISO certificate	3200 0001



All materials supplied are in compliance with the requirements of the List of Prohibited Substances



20	1	0852001144	S	BALL VALVE	G1/2"
19	1	0560440123	S	ELBOW	G1/2"
18	1	1627808009	R	VALVE SAFETY	ISO 7-R3/8"
17	1	0583810109	S	STRAIGHT COUPL.	G1/4" x Ø4
16	1	0605830012	S	BUSHING	ISO 7-R3/8" x RP1/4"
15	1	9740202733	S	TEE	RP3/8" x ISO7-R 3/8 x RP3/8"
14	1	1629095049	R	BUSHING	ISO 7-R3/4" x G3/8"
13	1	1629095018	R	GAUGE PRESS	G 1/4" (0-12BAR)
12	1	0686311511	S	PLUG	ISO7-R1/2"
11	1	1629111600		FILTER	G 1/2"
10	1	9740202144	S	NIPPLE	G 1/2"
9	1	0605950016	S	ELBOW	G1/2" x G1/2"
8	1	0837154000	S	REGULATOR	G1/2"
7	1	0586100080	S	UNION	RP 1/2" x ISO 7-R1/2"
6	1	0603410050	S	NIPPLE	ISO 7-R 1/2" x ISO 7-R 3/4"
5	2	0852001154	S	BALL VALVE	G3/4" (T-HANDLE)
4	2	0603410036	S	NIPPLE	ISO 7-R3/4"
3	1	0605950017	S	ELBOW	G3/4"
2	2	1629111587	R	BUSHING	ISO 7-R2" x RP3/4"
1	1	1629091100	R	BUFFER VESSEL	1000 Ltr
Pos	Qty	Partnumber	R/S	Name	Comments

Tolerances, if not indicated, according to:		General tolerances			
ATLAS COPCO STANDARD CLASS		1350K - m			
Name	VESSEL AIR BUFFER VESSEL OGP				Confidentiality Class acc. to 1102 K
Material	NOT APPLICABLE 20-35 (1000 Ltr)				Confidential
Treatment	See Drawing				INV
	Scale	1:10	Family	A2	Compare
	Drawn by	INESWL	Blank nr.		Replaces
STATUS		Version Drwg	Blank wt	Kg	Finl wt. 251.931 kg
		Des checked.	Prod checked.	Approved.	Date 5/05/2014
		Designation Sheet 1 / 1			
		1629091485-01			

Note: All components should be cleaned as per cleaning procedure 9829500380

2		POS 18 UPDATED	15/05/2017	User Agent
Ed	Position	Modified from	Date	Intr./Appd.

1629091485-M1	
Parent 3D model	Ed . Version 3D

Released

CONFIDENTIAL:

This document is our property and shall not without our permission be altered, copied, used for manufacturing or communicated to any other person or company.

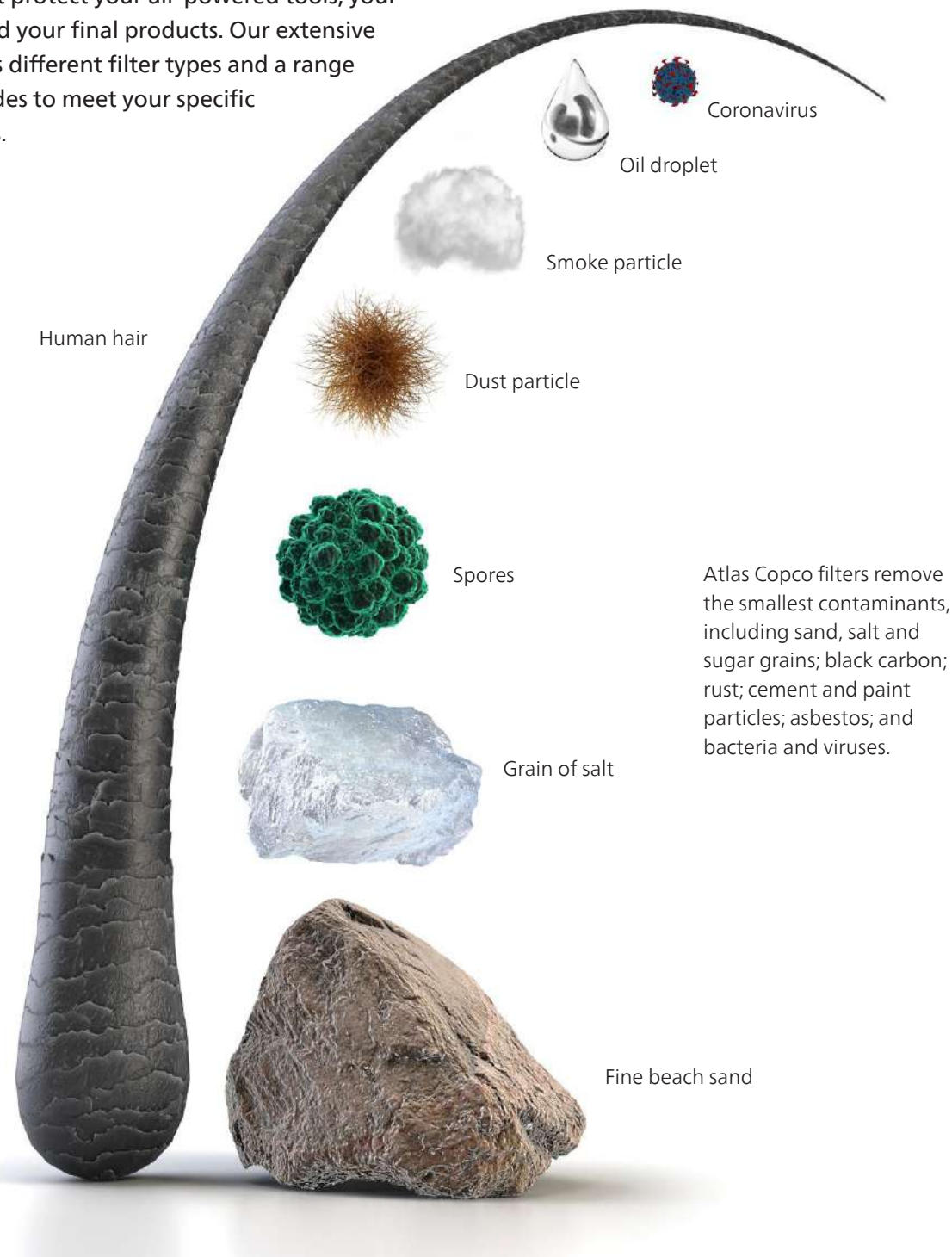


**Compressed  
air filters**



# Committed to superior productivity

Untreated compressed air can be contaminated by dust, water and oil. This makes filtration a crucial component of your air system. Atlas Copco has developed filtration solutions that protect your air-powered tools, your processes, and your final products. Our extensive offer includes different filter types and a range of purity grades to meet your specific requirements.



# Unsurpassed filtration quality

## In-house expertise

Because filtration is so important, Atlas Copco’s dedicated engineering team works in close collaboration with universities, regulatory authorities and premium filter material suppliers. Our scientists and engineers are therefore knowledgeable on the latest advances and innovations in the industry. Every step of the engineering process is meticulously executed, from basic research to prototype designs and end-of-life analysis.

## Rigorous quality control

To ensure top performance and reliability, all Atlas Copco filters are subjected to rigorous internal and external certification and quality control. Thanks to our testing facility, we conduct all certification in-house, including testing witnessed by independent parties. Capable of testing filters according to all relevant standards and under real-life conditions, our competence continues to grow with every new development in the filtration business.

### Certified peace of mind

FILTER APPROVALS			COMPANY CERTIFICATION		
CE	ASME	CRN	R	R	R
ACTIVE MEMBER OF					
ISO	pneurop	CAGI	bcas	VDMA	

- Atlas Copco’s filters are certified to meet the following ISO standards:
- ISO 8573-1:2010: Compressed air - Contaminants and purity classes
  - ISO 8573-2:2018: Compressed air - Test method for oil aerosol content
  - ISO 8573-4:2019: Compressed air - Test method for particles
  - ISO 8573-5: 2001: Compressed air - Test method for oil vapor and organic solvent content
  - ISO 12500-1:2007: Filters for compressed air - Test methods - Oil aerosols
  - ISO 12500-2:2007: Filters for compressed air - Test methods - Oil vapors
  - ISO 12500-3:2009: Filters for compressed air - Test methods - Particulates



## Engineered and built in Europe

Our entire filter range is designed and produced in Atlas Copco’s European facilities, using state-of-the-art production lines and quality controls. This geographic proximity allows us to keep R&D, engineering, production, and testing close together and streamline their collaboration.



# Advanced filtration technology

Filtration technology matters if you need constant air quality with low maintenance requirements. Over the years, Atlas Copco has innovated filter types, design, processes and media to give you best-in-class performance, reliability and lifetime.

## Filtration technologies

Choose the best filtration technology for your application to improve your air system performance:

### Wet particles: wrapped media

Wrapped media are known for their durability in wet and oil-contaminated environments. Our patented Nautilus technology combines multiple wrapped layers to offer constant air quality at the lowest pressure drop, even in the harshest working conditions.

### Solid particles: pleated media

Pleating is the optimal technology for capturing dry particulates in compressed air. Pleated media have a large surface area and therefore ensure a longer filter service lifetime and lower pressure drop.

### Oil vapors: macro-structured activated carbon

Macro-structured activated carbon has a larger surface compared to the typical carbon filter media, giving it a superior adsorption capacity and a steady performance over a longer time.

### Water: cyclone

The use of centrifugal forces secures a proper separation of liquid water droplets in the air flow.

**Anodized aluminum housing with powder coating to maximize corrosion protection**

## Element bottom cap (UD+, PD+ & DD+)

A patented drainage system facilitates the removal of oil from the filter element, eliminating the “wet band” at the bottom of the element that can compromise filter performance and lifetime.

## Service indicator

To ensure constant air quality, the service indicator allows for an easy check of the filter’s running hours, differential pressure, and maintenance status. It can even send a remote alert.

## Element top cap

The top cap guides the air flow optimally into the cartridge and to the outlet to reduce pressure drop and the overall energy use of the filter.

## inPASS™ bypass



Atlas Copco’s revolutionary built-in bypass can be used to reroute the air during filter service to ensure an uninterrupted air flow. It’s an invisible invention that will give you big investment and operational savings:

- Service your filters at any time, even during working hours.
- Secured air flow for your production during maintenance.
- Reduced maintenance time as your air system doesn’t need to be shut down.
- Eliminates the huge cost of an external piping bypass.
- Lowers the risk of leakages, resulting in lower energy costs.

## Strong and durable stainless-steel cylinders

## Differently colored end caps to easily recognize the filtration grade

## Easy-service float drain


Our non-stick float drain automatically expels all captured oil and water. To save you time and money, our drains can easily be serviced without removing the filter bowl. The threaded drain connection to the bowl also makes it easy to replace the float drain with an external manual or automatic drain.




Complete filtration

Dirt, water and oil are no match for Atlas Copco’s filters. They are designed to remove one or more of the following contaminants:


- DIRT: dust, solid particles, rust particles, micro-organisms.
- WATER: condensed liquid water, water aerosols, acidic condensates.
- OIL: liquid oil, oil aerosol, hydrocarbon vapor.



**Flanged design**  
6 grades  
12 sizes  
550 → 8,000 l/s  
1,200 → 17,000 cfm




**Threaded design**  
7 grades  
14 sizes  
7 → 630 l/s  
14 → 1,335 cfm




**Flanged design**  
850 → 1,100 l/s  
1,801 → 2,331 cfm


**Tower design**  
1 grade  
9 sizes  
20 → 1,800 l/s  
42 → 3,814 cfm



**Threaded design**  
5 grades  
9 sizes  
15 → 944 l/s  
32 → 2,000 cfm



**Threaded design**  
5 grades  
11 sizes  
9 → 520 l/s  
19 → 1,102 cfm



Name	DDp+	PDp+	DD+	PD+	UD+	QD+	QDT+	H High-pressure			SFA Silicone-free		
Grade	Rough	Fine	Rough	Fine	Ultimate	Basic	Optimal	Rough & fine	Rough & fine	Basic	Rough & fine	Rough & fine	Basic
Contaminant	Dry dust		Oil aerosol/wet dust			Oil vapor							
General applications								Special applications					



Dry dust



Micro-organisms



Oil aerosol



Wet dust



Oil vapor



Water drops

A solution for every application

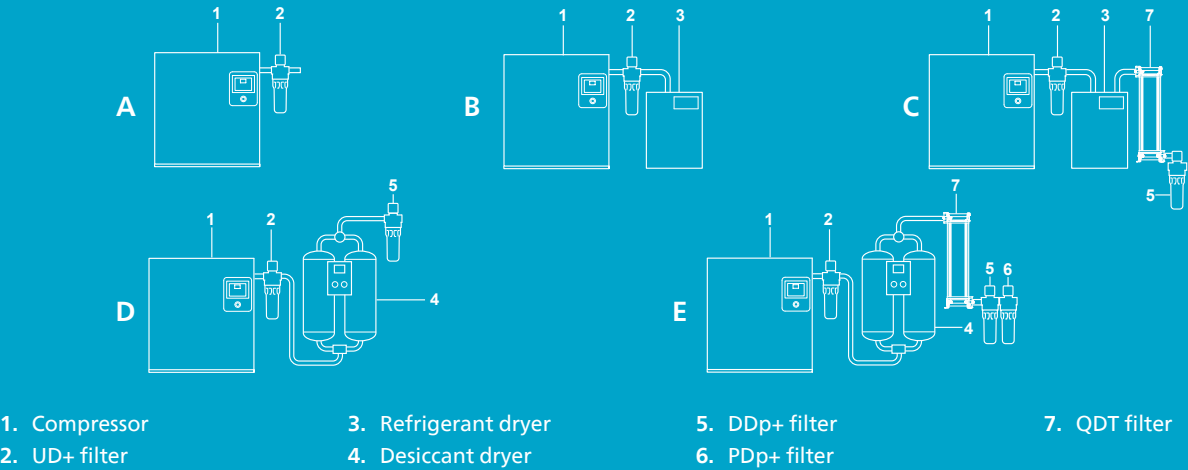
Depending on point of use and application, different compressed air purities might be needed. The table below shows the various ISO 8573-1:2010 air purity classes and the Atlas Copco filter and dryer-combinations that meet these classes.

ISO 8573-1:2010 class	Solid particles		Water	Oil (aerosol, liquid, vapor)		
	Wet conditions	Dry conditions				
0	As specified by the customer*			Oil-free compressor		
1	DD+ & PD+	DDp+ & PDp+	Desiccant dryer	DD+ & PD+	&	QD+/QDT
	UD+			UD+	&	QD+/QDT
2	DD+	DDp+	Desiccant dryer, rotary drum dryer	DD+ & PD+		
				UD+		
3	DD+	DDp+	Desiccant dryer, membrane dryer, rotary drum dryer	DD+		
4	DD+	DDp+	Membrane dryer, refrigerant dryer	DD+		
5	DD+	DDp+	Membrane dryer, refrigerant dryer	-		
6	-	-	Membrane dryer, refrigerant dryer	-		

\* Please contact your Atlas Copco sales representative.

Examples of typical installations

A	Compressor - UD+	Air purity class ISO 8573-1:2010 [1:-:2]
B	Compressor - UD+ - Refrigerant dryer	Air purity class ISO 8573-1:2010 [1:4:2]*
C	Compressor - UD+ - Refrigerant dryer - QDT - DDp+	Air purity class ISO 8573-1:2010 [2:4:1]
D	Compressor - UD+ - Desiccant dryer - DDp+	Air purity class ISO 8573-1:2010 [2:2:2]
E	Compressor - UD+ - Desiccant dryer - QDT - DDp+ - PDp+	Air purity class ISO 8573-1:2010 [1:2:1]



\* Particle class 1 is reached directly after UD+. As downstream piping & vessels can add particles, it is advised to install particle filters DDp+ and PDp+ just before the application to reach particle class 1 at point of use.  
The compressor should be equipped with a liquid water separation system such as an aftercooler including a drain or a water separator (WSD). If this is not the case, install a water separator in front of a coalescence filter. For critical applications, install extra air treatment products at the point of use for the removal of pipeline contamination and condensation.

# DD+/PD+/UD+ Series

## Oil coalescence filters with patented Nautilus technology

Compressor element lubrication and your compressor installation itself can release oil aerosols and wet dust in your air system. DD+, PD+ and UD+ filters efficiently remove these contaminants to protect your equipment and your processes. These innovative filtration solutions are engineered to cost-effectively provide the best air purity and meet today's increasingly stringent quality requirements.



### Your benefits:

- **Maximum oil aerosol, wet dust and water droplet filtration and drainage** - High-efficiency glass fiber Nautilus technology ensures a low pressure drop.
- **Patented drainage technology** - A coarse 3D-structured layer/barrier provides efficient oil drainage and prevents re-entry of oil droplets into the air stream.
- **Minimal operating costs** - Optimal design and filter technology allow for low pressure losses.
- **Cost-saving maintenance** - Ribbed housing ensures easy removal of the filter bowl. The push-in element and drain connection were designed for effortless replacement. The service indicator shows (preventive) maintenance alerts.



### Certification

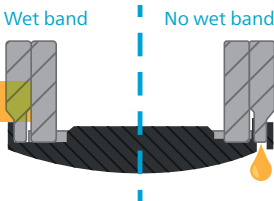
- ISO 8573-2:2018
- ISO 12500-1:2007

### 3 patented innovations



#### 1. Nautilus technology for energy savings

The Nautilus multi-wrap technology was specifically developed to improve the oil aerosol coalescing process. That means you get optimal filtration results at a lower pressure drop to minimize your operational costs.



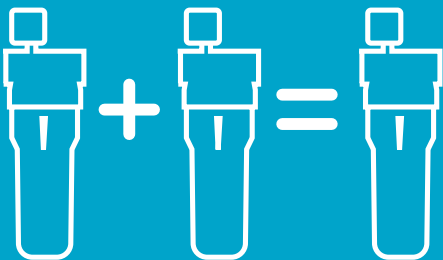
#### 2. Enhanced drainage channels for pure air

The bottom cap of the filter is designed to increase the drainage rate of the oil from the barrier by optimizing the contact between the barrier and drainage routes. This ensures no wet band is formed in the barrier and the re-entrainment risk is significantly diminished, resulting in cleaner air.

#### 3. Superior drainage technology for a strong performance & long lifetime

A unique coarse 3D-structured layer/barrier ensures efficient oil drainage and prevents re-entry of oil droplets into the air flow. The 3D structure also offers a service life of 8,000 hours.

### UD+ 2-in-1 concept saves money and space



The UD+ combines two filtration steps (DD+ and PD+) into one, a unique technology to meet the quality requirements of diverse applications and offer superior energy savings. The UD+ filter provides the same air purity as a DD+-PD+ filter train with a lower pressure drop.

- Save up to 50% in space: The 2-in-1 concept is ideal for applications where space is at a premium, reducing your environmental footprint, system complexity, and installation space.
- Save money: Install UD+ filters to enjoy significant installation and maintenance (cost) savings compared to conventional filters.

### Performance

	DD+	PD+	UD+
Contaminant	Oil aerosol/wet dust		
Filtration technology	Wrapped		
Test method	ISO 8573-2:2018, ISO 12500-1:2007		
Maximum oil carry-over (mg/m³)*	0.08*	0.008*	0.001
ISO class 8573-1	[2-:3]	[1-:2]	[1-:2]
Average wet pressure drop (mbar)	119	132	220
Element service	After 8,000 operating hours or 1 year For flanged filters: after 4,000 operating hours or 1 year or 350 mbar pressure drop		
Precede with	Water separation	Water separation & DD+	Water separation

\* Inlet oil concentration = 10 mg/m³. Oil = oil aerosol and liquid.

# DDp+/PDp+ Series

## Optimal dry dust filtration

DDp+ and PDp+ filters efficiently prevent dust, corrosion particles, micro-organisms, dirt and adsorption material from entering your compressed air stream. These innovative filtration solutions are engineered to cost-effectively provide the best air purity and meet today's strict quality demands.



### Your benefits:

- **Maximum dirt, solid particle, micro-organism and rust particle removal**  
High-efficiency pleated glass fiber media with coarse pre-filter fleece ensure a high dust-holding capacity.
- **Minimal operating costs** - Optimal pleated design and filter technology allow for low pressure losses.
- **Cost-saving maintenance** - Ribbed housing ensures easy removal of the filter bowl. The push-in element and drain connection were designed for effortless replacement. The service indicator shows (preventive) maintenance alerts.



## Performance

	DDp+	PDp+
Contaminant	Dry dust	
Filtration technology	Pleated	
Test method	ISO 8573-4:2001, ISO 12500-3:2009	
Particle removal efficiency (% at MPPS)	99.92	99.98
ISO class 8573-1	[2:-3]	[1:-2]
Element service	After 8,000 operating hours or 1 year or 350 mbar pressure drop For flanged filters: after 4,000 operating hours or 1 year or 350 mbar pressure drop	
Precede with	Dryer	Dryer & DDp+

## Certification

- ISO 8573-4:2019
- ISO 12500-3:2009

# QD+ Series

## High-performance oil vapor filters

QD+ filters efficiently reduce hydrocarbons, odors and oil vapor in your compressed air to protect your investment, equipment and processes. The macro-structured activated carbon will reduce the residual oil content through adsorption to less than 0.003 mg/m³. The pressure drop is low and remains constant during the lifetime of the filter.



### Your benefits:

- **Maximum oil vapor removal**  
The macro-structured activated carbon is specifically designed to efficiently and completely remove oil vapors from compressed air with minimal dust release.
- **Minimal operating costs** - Low pressure losses thanks to an optimal flow design.
- **Low-cost maintenance** - Ribbed housing ensures easy removal of the filter bowl. The push-in element and drain connection were designed for effortless replacement. The service indicator shows (preventive) maintenance alerts.



## Performance

	QD+
Contaminant	Oil vapor
Filtration technology	Macro-structured activated carbon
Test method	ISO 8573-5:2001
Maximum oil carry-over (mg/m³)*	0.003*
ISO class 8573-1	[2:-1]
Average dry pressure drop (mbar)	75
Element service	After 2,000 operating hours or 1 year For flanged filters: after 1,000 operating hours or 1 year
Precede with	Water separation UD+ or DD+/PD+ Dryer

\* In a typical installation with refrigerant dryer and UD+ filter.

Options  
DD+/PD+/UD+/DDp+/PDp+/QD+

- Potential-free alarm contact for gauge.
- Smart indicator.
- External wiring kit for smart indicator (alarm/ power supply).
- Interconnection kit.
- Wall mounting kit.
- EWD including connection kit.



		DD+/PD+/UD+		DDp+/PDp+		QD+	
		Standard	inPASS™	Standard	inPASS™	Standard	inPASS™
Drain	Floater drain	X	X				
	Manual drain			X	X	X	X
Indicator	Sliding indicator	size 7-25		size 7-25			
	Gauge	> size 25		> size 25			
	Smart indicator		X		X		
Bypass			X		X		X
Options							
Smart indicator		X		X		X	X
External wiring kit (for smart indicator)		X	X	X	X	X	X
Potential-free alarm for gauge		X		X			
Filter connection kit		X	X	X	X	X	X
Wall mounting kit		X	X	X	X	X	X
EWD drain with connection kit		X	X				

Correction factors

When working with other pressures than the nominal pressure, the actual FAD capacity is calculated by multiplying the correction factor with the rated AML capacity. The calculated actual flow capacity corresponds to the AML-stated pressure drop.

Working pressure in bar(g)	1	2	3	4	5	6	7	8	10	12	14	16
Correction factor	0.38	0.53	0.65	0.75	0.83	0.92	1	1.06	1.20	1.31	1.41	1.50

Sizing & dimensions  
DD+/PD+/UD+/DDp+/PDp+/QD+

Filter size with or without inPASS™	Nominal capacity		Reference pressure		Maximum pressure		Connections		Dimensions						Free space for cartridge replacement		Weight	
									A		B		C		D			
	l/s	cfm	bar(e)	psig	bar(e)	psig	G	NPT	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
7+	7	15	7	102	16	232	G 1/2	NPT 1/2	106	4.17	90	3.54	362.6	14.3	90	3.54	1.18	2.60
15+	15	32	7	102	16	232	G 1/2	NPT 1/2	106	4.17	90	3.54	362.6	14.3	90	3.54	1.24	2.73
25+	25	53	7	102	16	232	G 1/2	NPT 1/2	106	4.17	90	3.54	415.1	16.3	90.5	3.56	1.45	3.20
45+	45	95	7	102	16	232	G 3/4	NPT 3/4	135	5.31	110	4.33	442.6	17.4	110	4.33	2.35	5.18
75+	75	159	7	102	16	232	G 1	NPT 1	135	5.31	110	4.33	527.6	20.8	110	4.33	2.8	6.17
110+	110	233	7	102	16	232	G 1 1/2	NPT 1 1/2	175	6.89	143	5.63	559.1	22.0	130.5	5.14	5.4	11.91
145+	145	307	7	102	16	232	G 1 1/2	NPT 1 1/2	175	6.89	143	5.63	629.1	24.8	130.5	5.14	5.93	13.08
180+	180	381	7	102	16	232	G 1 1/2	NPT 1 1/2	175	6.89	143	5.63	699.1	27.5	130.5	5.14	6.45	14.22
240+	240	509	7	102	16	232	G 2	NPT 2	222	8.74	171	6.73	729.6	28.7	175	6.89	9.54	21.04
300+	300	636	7	102	16	232	G 2	NPT 2	222	8.74	171	6.73	822.6	32.4	175	6.89	10.71	23.62
							G 2 1/2	NPT 2 1/2	222	8.74	171	6.73	822.6	32.4	175	6.89	10.43	23.00

Non-inPASS™ variant: height “C” decreases by 51 mm (2”) for sizes 7-25 and by 10 mm (0.4”) for sizes 45-300.

With inPASS™																		
380+	380	805	7	102	16	232	G 3	NPT 3	250	9.84	191	7.52	927.1	36.5	200.5	7.89	13.6	29.99
425+	425	901	7	102	16	232	G 3	NPT 3	250	9.84	191	7.52	1043.1	41.1	200.5	7.89	14.95	32.96
510+	630	1081	7	102	16	232	G 3	NPT 3	250	9.84	191	7.52	1281.1	50.4	200.5	7.89	19.6	43.22

Without inPASS™																		
360+	360	763	7	102	16	232	G 2 1/2	NPT 2 1/2	222	8.74	171	6.73	812.7	32.0	175	6.89	10.2	22.49
430+	430	911	7	102	16	232	G 3	NPT 3	250	9.84	191	7.52	917.2	36.1	200.5	7.89	13.98	30.83
525+	525	1112	7	102	16	232	G 3	NPT 3	250	9.84	191	7.52	1033.2	40.7	200.5	7.89	15.32	33.78
630+	630	1335	7	102	16	232	G 3	NPT 3	250	9.84	191	7.52	1271.2	50.0	200.5	7.89	19.24	42.42

Flanged										Flanged connection								
550+F/630+F	550	1165	7	102	16	232	DN 80		370	14.6	280	11.0	1295	51.0	1375	54.1	76.0	167.6
850+F/970+F	850	1801	7	102	16	232	DN 100		510	20.1	410	16.1	1360	53.5	1500	59.1	141.0	310.9
850+T	850	1801	7	102	16	232	DN 100		510	20.1	418	16.5	796	31.3	200	7.9	35.2	77.6
1100+F/1260+F	1100	2331	7	102	16	232	DN 100		510	20.1	410	16.1	1360	53.5	1500	59.1	143.0	315.3
1100+T	1100	2331	7	102	16	232	DN 100		510	20.1	418	16.5	966	38.0	200	7.9	37.4	82.4
1400+F/1600+F	1400	2967	7	102	16	232	DN 150		620	24.4	485	19.1	1480	58.3	1560	61.4	210.0	463.0
1800+F/2200+F	1800	3814	7	102	16	232	DN 150		640	25.2	490	19.3	1555	61.2	1640	64.6	176.0	388.0
2200+F/2400+F	2200	4662	7	102	16	232	DN 150		640	25.2	490	19.3	1555	61.2	1640	64.6	178.0	392.4
3000+F/3600+F	3000	6357	7	102	16	232	DN 200		820	32.3	650	17.7	1745	68.7	1710	67.3	420.0	925.9
4000+F	4000	8476	7	102	16	232	DN 200		820	32.3	650	17.7	1745	68.7	1710	67.3	428.0	943.6
5000+F	5000	10595	7	102	16	232	DN 200		820	32.3	650	17.7	1745	68.7	1710	67.3	432.0	952.4
6000+F	6000	12714	7	102	16	232	DN 250		920	36.2	815	32.1	2085	82.1	1625	64.0	671.0	1479.3
7000+F	7000	14833	7	102	16	232	DN 250		920	36.2	815	32.1	2085	82.1	1625	64.0	675.0	1488.1
8000+F	8000	16952	7	102	16	232	DN 300		1040	40.9	930	36.6	2070	81.5	1625	64.0	900.0	1984.2

Temperature correction factors QD+

At higher temperatures, more compressor oil evaporates. When the actual working air inlet temperature differs from the reference, divide the filter capacity by the corresponding correction factors to obtain the correct capacity.

Inlet temperature °C	20	25	30	35	40	45	50	55	60
Inlet temperature °F	68	77	96	95	104	113	122	131	140
Correction factor oil-free	1	1	1	1	1	1	1	1	1
Correction factor oil-lubricated	1	1	1	1.2	1.5	1.7	2.1	2.4	2.6

Some environmental or process aspects could cause a higher amount of hydrocarbons or other volatile organic compounds in the compressed air. Contact Atlas Copco when higher concentrations can be expected.



# QDT Series

## Activated carbon towers for optimal oil vapor filtration

The high-efficiency activated carbon tower is capable of removing hydrocarbons, odors and oil vapor from compressed air. The activated carbon will, through adsorption, reduce the residual oil content to lower than 0.003 mg/m³. The pressure drop is low and stays minimal during the filter’s lifetime.



### Your benefits:

- **Maximum oil vapor removal**  
Superb activated carbon material.
- **Low pressure drop** - Optimal internal flow path.
- **High reliability** - The QDT’s robust design and rigorous quality control of the activated carbon optimize filter reliability.
- **Long service intervals** - The high volume of activated carbon material ensures a long lifetime, even in very harsh working conditions.

### Options

- Oil indicator ensures pure air.
- Wall mounting kit for easy installation (20-185 l/s).

### Performance

	QDT
Contaminant	Oil vapor
Test method	ISO 8573-5:2001, ISO 12500-2:2007
Maximum oil carry-over (mg/m³)*	0.003
Average dry pressure drop (mbar)	125 (QDT 20-310) 72 (QDT 425-1800)
Element service	After 4,000 operating hours or 1 year (up to QDT 310) After 8,000 operating hours or 1 year (from QDT 425)
Precede with	Water separation UD+ or DD+ /PD+ Dryer

\* After UD+ or DD+ /PD+.



QDT 20-310



QDT 425-1800

### Certification

ISO 8573-5:2001

### Sizing & dimensions

Filter size	Nominal capacity		Connections G or NPT	Dimensions						Weight	
				A		B		C			
	l/s	cfm		in	mm	in	mm	in	mm	in	kg
20	20	42	1/2	490	19	223	9	190	7	7	22
45	45	95	1	715	28	223	9	190	7	15	33
60	60	127	1	840	33	223	9	190	7	18	40
95	95	210	1	715	28	387	15	190	7	29	64
125	125	265	1 1/2	840	33	387	15	190	7	34	75
150	150	318	1 1/2	715	28	551	22	190	7	42	93
185	185	392	1 1/2	840	33	551	22	190	7	50	110
245	245	519	1 1/2	840	33	715	28	190	7	67	148
310	310	657	1 1/2	840	33	879	35	190	7	84	185
425	425	901	DN 80 3"	2148	85	710	28	600	24	264	581
550	550	1165	DN 80 3"	2190	86	710	28	670	26	302	664
850	850	1801	DN 100/4"	2320	91	724	29	805	32	391	860
1100	1100	2331	DN 100/4"	2450	97	934	37	820	32	602	1324
1800	1800	3814	DN 150/6"	2612	103	1046	41	980	39	882	1940

### Correction factors

For other compressed air inlet temperatures, divide the filter capacity by the following correction factor (Kt):

Inlet temperature °C	10	15	20	25	30	35	40	45	50	55	60	65	70*	75*	80*
Inlet temperature °F	50	59	68	77	86	95	104	113	122	131	140	149	158	167	176
Correction factor oil-free	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Correction factor oil-lubricated	1	1	1	1	1	1	1.2	1.5	1.7	2.1	2.4	3	3.5	4.1	4.9

\* For QDT flanged only.

For other compressed air inlet pressures, multiply the filter capacity by the following correction factor (Kp):

Inlet pressure bar	3	4	5	6	7	8	9	10	11	12	13
Inlet pressure psi	44	58	73	87	102	116	131	145	160	174	193
Correction factor	0.57	0.77	0.83	1	1	1	1	1.05	1.05	1.11	1.18

### UD+ & QDT: the winning combination

The Atlas Copco UD+ - QDT filter train meets the requirements of air purity class 1 for total oil, according to ISO 8573-1:2010, in a typical compressed air installation:

UD+	QDT
Liquid oil & oil aerosol removal	Oil vapor removal
Guaranteed 0.0009 mg/m³ aerosol and liquid	Guaranteed 0.003 mg/m³ vapor
40% pressure drop reduction compared to DD+ /PD+	65% pressure drop reduction compared to previous QDT
50% footprint reduction	Extremely compact compared to vessel designs

### Certified filter trains

Filter train	Purity class according to ISO 8573-1:2010	Certified
UD+ - QDT - DDp+	[2:-1]	yes
UD+ - QDT - DDp+ PDp+	[1:-1]	yes
UD+ - QD+	[2:-1]	yes



# SFA Series

## Silicone-free removal of oil aerosol, dust and oil vapor

Superb air purity is a prerequisite to safeguard your instruments and end products. Our silicone-free SFA filters efficiently prevent dry and wet dust, particulates, oil aerosol and water droplets from entering your compressed air system. The SFA series is manufactured and treated according to the high standards of silicone-free equipment, and certified by the Fraunhofer Institute as guaranteed silicone-free.



### Your benefits:

- **Maximum contaminant removal** - Removal of dry and wet dust, particulates, oil aerosol and water droplets with high-efficiency glass fiber and fleece media.
- **Significant energy savings & limited system operating costs** - Optimal design and filter media allow for a low pressure drop.
- **High reliability** - Stainless-steel cores, double O-rings, epoxy-sealed caps and filter housing with anti-corrosive coating.
- **Easy maintenance** - External ribbing on the threaded housing and push-on elements.
- **Monitoring of energy use** - Differential pressure indication (indicator for sizes 9-32 l/s, gauge for sizes 44-520 l/s – optional).

### Options

Filter connection kit (9-520 l/s).  
Wall mounting kit (9-520 l/s).  
Quick coupling (DD+ & PD+ only).  
EWD no-loss electronic drain (DD+ & PD+ only).  
Voltage-free contact mounted in the differential gauge (not for QD+).

### Certification

Paint compatibility certificate (Fraunhofer Institute)



## Sizing & dimensions

Filter size	Nominal capacity*		Maximal capacity*		Connections G or NPT	Dimensions						Free space for cartridge replacement		Weight	
						A		B		C					
DD+, DDp+, PD+, PDp+, QD+	l/s	cfm	l/s	cfm	in	mm	in	mm	in	mm	in	mm	in	kg	lbs
9	9	19	11	23	3/8	90	3.54	61	2.40	268	10.55	75	2.95	1	2.2
17	17	36	21	45	1/2	90	3.54	61	2.40	268	10.55	75	2.95	1.1	2.4
32	32	68	40	85	1/2	90	3.54	61	2.40	323	12.72	75	2.95	1.3	2.9
44	44	93	55	117	3/4 & 1	110	4.33	98.5	3.88	374	14.72	75	2.95	1.9	4.2
60	60	127	75	159	1	110	4.33	98.5	3.88	414	16.3	75	2.95	2.1	4.6
120	120	254	150	318	1-1/2	140	5.51	105	4.13	520	20.47	100	3.94	4.2	9.3
150	150	318	188	399	1-1/2	140	5.51	105	4.13	603	23.47	100	3.94	4.5	9.9
175	175	371	219	464	1-1/2	140	5.51	105	4.13	603	23.47	100	3.94	4.6	10.1
280	280	594	350	742	2 & 2-1/2	179	7.05	121	4.76	689	27.13	150	5.91	6.9	15.2
390	390	827	488	1035	3	210	8.27	128	5.04	791	31.14	200	7.87	11	24.2
520	520	1102	650	1378	3	210	8.27	128	5.04	961	37.83	200	7.87	12.6	27.8

\* Nominal pressure: 7 bar(e)/102 psig; temperature: 20°C/68°F.



# WSD Series

## High-performance water separators

Atlas Copco's WSD prevents condensed water from building up in your air system. The water separator comes as standard with Atlas Copco's aftercoolers and can also be installed at any point in your system. Made entirely of corrosion-proof material, these cyclone-based separators remove water aerosols to protect system components such as dryers and filters. Maintenance-free and without moving parts, they come with an automatic or a manual drain.



### Your benefits:

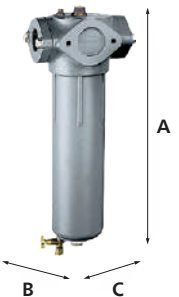
- **A reliable air system** - The corrosion-proof drain prevents condensed water from building up in your air system.
- **Minimal maintenance** - The water separator does not have moving parts and is thus maintenance-free. It comes with an automatic and a manual drain.
- **Energy savings** - The intelligent drain function monitors condensate build-up with liquid level sensors. It drains the condensate only when required to avoid using compressed air inefficiently.
- **Flexible installation** - WSD water separators can be installed at any point in your air net.



## Sizing & dimensions

Type	Capacity range		Maximum working pressure		Connections	Dimensions						Weight	
						A		B		C			
	l/s	cfm	bar(e)	psi	inlet/outlet	mm	inch	mm	inch	mm	inch	kg	lbs
WSD 25	7-60	15-127	20	290	G 1	332	13.0	130	5.1	185	7.3	1.1	2.4
WSD 80	50-150	106-318	20	290	G 1½	432	17.0	130	5.1	185	7.3	3.5	7.7
WSD 250	125-350	265-742	20	290	G 2½	532	20.9	160	6.3	230	9.0	12.5	27.6
WSD 750	300-800	636-1695	20	290	83 mm*	532	20.9	160	6.3	230	9.0	14.0	30.9

\* Blind flange to be machined up to this diameter.



H Series

Guaranteed air purity up to 350 bar

High-pressure filters efficiently reduce oil aerosol, dust and wet dust, particulates, water droplets and oil vapor in your compressed air stream to protect your investment, equipment and processes. Our innovative high-pressure filtration solutions are engineered to cost-effectively provide the best air purity and meet today’s increasing quality demands for working pressures of up to 350 bar. All high-pressure filter housings are hydraulically tested to ensure safe and reliable operation at all times. A pressure test certificate accompanies each filter.



Your benefits:

- **Maximum contaminant removal (dry & wet dust, particulates, oil aerosol and water droplets)** - High-efficiency glass fiber and fleece media.
- **Significant energy savings & limited system operation costs** Optimal design and filter media allow for low pressure losses.
- **High reliability** - Strong and durable stainless-steel cores, double O-rings, epoxy-sealed caps and filter housing with anti-corrosive coating.

Applications

- Chemical
- Food & beverage
- Manufacturing
- Military
- Oil & gas



Performance

	DDHp+	PDHp+	DDH+	PDH+	QDH+
Contaminant	Dry dust		Oil aerosol/wet dust		Oil vapor
Test method	ISO 8573-4:2019 ISO 12500-3:2009		ISO 8573-2:2018 ISO 12500-1:2007		ISO 8573-5:2001
Maximum oil carry-over (mg/m³)	-	-	0.08*	0.007*	0.003**
Particle removal efficiency (% at MPPS)	99.92 (0.1)	99.98 (0.06)	N/A	N/A	N/A
ISO class 8573-1	[2:-]	[1:-]	[2:-3]	[1:-2]	[3:-1]
Dry pressure drop (mbar)	85	100	N/A	N/A	140
Wet pressure drop (mbar)	N/A	N/A	180	215	N/A
Element service	After 4,000 operating hours or 1 year or 350 mbar pressure drop		After 4,000 operating hours or 1 year		After 1,000 operating hours or 1 year
Precede with	N/A	DDHp+	N/A	DDH+	DDH+/PDH+

Always install a liquid water separation system in front of a filter. Water separation is not needed in the high-pressure line if there is a sufficiently low PDP in the low-pressure line (e.g. nitrogen skid, low-pressure line with adsorption dryer).

\* Inlet oil concentration = 10 mg/m³. Oil = oil aerosol and liquid.  
\*\* After DD+/PD+ with inlet oil concentration of 10 mg/m³.

Sizing & dimensions

Filter size	Nominal capacity			Connections	Dimensions						Weight	
					A		B		C			
DDH, DDHp, PDH, PDHp, QDH	m³/h	l/s	cfm	in	mm	in	mm	in	mm	in	kg	lbs
20 bar aluminum												
15+	54	15	32	3/8	90	3.5	80	3.1	185	7.3	1.0	2.2
32+	115	32	68	1/2	90	3.5	80	3.1	185	7.3	1.1	2.4
55+	198	55	117	1/2	90	3.5	80	3.1	240	9.4	1.3	2.9
80+	288	80	170	3/4 & 1	110	4.3	100	3.9	260	10.2	1.6	3.5
110+	396	110	233	1	110	4.3	100	3.9	300	11.8	2.1	4.6
200+	720	200	424	1 1/2	140	5.5	131	5.2	410	16.1	4.2	9.3
270+	972	270	572	1 1/2	140	5.5	131	5.2	490	19.3	4.5	9.9
330+	1188	330	699	1 1/2	140	5.5	131	5.2	490	19.3	4.6	10.1
490+	1764	490	1038	2 & 2 1/2	179	7	166	6.5	575	22.6	6.9	15.2
50 bar aluminum												
160+	160	44	94	1/4	63	2.5	63	2.5	150	5.9	0.3	0.7
250+	250	69	147	3/8	63	2.5	63	2.5	190	7.5	0.3	0.7
450+	450	125	265	1/2	114	4.5	114	4.5	305	12.0	2.6	5.7
550+	550	153	324	3/4	114	4.5	114	4.5	305	12.0	2.6	5.7
835+	835	232	491	1	114	4.5	114	4.5	395	15.6	3.3	7.3
1250+	1250	347	736	1 1/2	146	5.8	146	5.8	435	17.1	7.5	16.5
1725+	1725	479	1015	1 1/2	146	5.8	146	5.8	435	17.1	7.5	16.5
1925+	1925	535	1133	2	146	5.8	146	5.8	435	17.1	7.5	16.5
3200+	3200	889	1883	2	146	5.8	146	5.8	635	25.0	10	22.0
50 bar stainless steel												
100+	100	28	59	1/4	85	3.4	85	3.4	202	8.0	1.7	3.7
200+	200	56	118	3/8	85	3.4	85	3.4	227	8.9	2	4.4
340+	340	94	200	1/2	85	3.4	85	3.4	257	10.1	2.2	4.8
500+	500	139	294	3/4	110	4.3	110	4.3	270	10.6	4	8.8
1000+	1000	278	589	1	110	4.3	110	4.3	422	16.6	5	11.0
1700+	1700	472	1000	1 1/2	150	5.9	150	5.9	517	20.4	15	33.1
2040+	2040	567	1200	2	150	5.9	150	5.9	517	20.4	15	33.1
3400+	3400	944	2000	2	150	5.9	150	5.9	817	32.2	21	46.3
100 bar stainless steel												
100+	100	28	59	1/4	65	2.6	65	2.6	135	5.3	3.2	7.1
315+	315	88	185	1/2	65	2.6	65	2.6	250	9.8	5.6	12.3
460+	460	128	271	3/4	88	3.5	88	3.5	275	10.8	6.1	13.4
680+	680	189	400	1	135	5.3	135	5.3	265	10.4	10.5	23.1
1200+	1200	333	706	1	135	5.3	135	5.3	480	18.9	14.7	32.4
1700+	1700	472	1000	1 1/2	150	5.9	150	5.9	525	20.7	22	48.5
3400+	3400	944	2000	2	150	5.9	150	5.9	815	32.1	28	61.7
350 bar stainless steel												
48+	48	13	28	1/4	41	1.6	41	1.6	103	4.0	1.6	3.5
111+	111	31	65	1/4	65	2.6	65	2.6	135	5.3	3.2	7.1
255+	255	71	150	1/2	88.5	3.5	88.5	3.5	210	8.2	5.6	12.3
510+	510	142	300	3/4	88.5	3.5	88.5	3.5	280	10.9	6.1	13.4
750+	750	208	441	1	150	5.9	150	5.9	330	12.9	14.5	32.0
1330+	1330	369	783	1	150	5.9	150	5.9	480	18.7	17.4	38.3

Correction factors

20 bar aluminum										
Operating pressure	barg	-	-	-	-	-	14	16	18	20
	psig	-	-	-	-	-	203	232	261	290
Correction factor							0.9	0.95	1	1.05
50 bar aluminum & stainless steel										
Operating pressure	barg	4	6	8	10	15	20	30	40	50
	psig	58	87	116	145	218	290	435	581	726
Correction factor		0.14	0.22	0.28	0.34	0.47	0.56	0.7	0.85	1
100 bar stainless steel										
Operating pressure	barg	20	30	40	50	60	70	80	90	100
	psig	290	435	581	726	871	1016	1161	1306	1451
Correction factor		0.45	0.57	0.68	0.8	0.84	0.88	0.92	0.96	1
350 bar stainless steel										
Operating pressure	barg	-	-	50	100	150	200	250	300	350
	psig	-	-	726	1451	2177	2903	3628	4354	5080
Correction factor				0.73	0.78	0.82	0.87	0.91	0.96	1





Atlas Copco



Compressed air filters





# COMMITTED TO SUPERIOR PRODUCTIVITY

## **In-house development & testing**

Since 1998, our dedicated filtration team is responsible for in-house development of cutting-edge filtration solutions. This results in expert know-how of filtration mechanisms, state-of-the-art test facilities and breakthrough innovations. For many years, our filtration team has cooperated closely with the University of Karlsruhe, a leading institute in research of filtration mechanisms.

## **Rigorous quality control**

To ensure the highest standards, all Atlas Copco products are subjected to rigorous quality control testing. The entire filter range is produced in-house, on the most advanced production lines, using the most stringent methods in the industry. You can rest assured at all times that strict certification and testing procedures are conducted to ensure our filtration products meet the highest standards.

# THE ATLAS COPCO SOLUTION

Compressed air can be contaminated by dirt, water and oil, which can be further divided as follows:

- **DIRT:** micro-organisms, dust, solid particles, rust particles.
- **WATER:** water vapor, condensed liquid water, water aerosols, acidic condensates.
- **OIL:** liquid oil, oil aerosol, hydrocarbon vapor.

Atlas Copco offers a wide selection of filtration solutions and application knowledge. Different product types and grades are available to meet your every demand. Only genuine spare cartridges guarantee the Atlas Copco filter performance.



## Welded design

6 grades  
12 sizes  
550 → 8,000 l/s  
1,200 → 17,000 cfm

## Tower design

1 grade  
14 sizes  
20 → 1800 l/s  
42 → 3814 cfm

20 bar / 290 psi  
50 bar / 725 psi  
100 bar / 1,450 psi  
350 bar / 5,075 psi

## Threaded design

5 grades  
9 sizes  
15 → 944 l/s  
32 → 2,000 cfm

## Threaded design

5 grades  
11 sizes  
9 → 520 l/s  
19 → 1,102 cfm

## Threaded design

1grade  
10 sizes  
400 → 6,700 l/min  
14 → 237 cfm



## Cast design

6 grades  
13 sizes  
9 → 550 l/s  
19 → 1,200 cfm



850 → 1,100 l/s  
1,801 → 2,331 cfm



Name	DDp+	PDp+	DD+	PD+	UD+	QD+	QDT	H High pressure			SFA Silicone-free			MV Medical vacuum	
	DDp	PDp	DD	PD		QD									
Grade	Rough	Fine	Rough	Fine	Ultimate	Basic	Optimal	Rough & Fine	Rough & Fine	Basic	Rough & Fine	Rough & Fine	Basic	Fine	
Contaminant	Dry dust		Oil aerosol / wet dust			Oil vapor								Dry dust	
General applications								Special applications							



Dry dust



Micro-organisms



Oil aerosol



Wet dust



Oil vapor



Water drops

# CERTIFIED PERFORMANCE

Atlas Copco filters are qualified according to the ISO 8573-1:2010 standard. This is the latest edition of the standard. Beware of filters that comply with earlier editions, such as ISO 8573-1:1991 or ISO 8573-1:2001. The difference is inferior quality of the delivered compressed air. This qualification is a result of our filters being tested according to ISO 12500-1:2007, ISO 12500-2:2007, and ISO 12500-3:2009. These specify the test layout, test procedures and inlet conditions required for testing coalescing filters, vapor filters, and solid particle filters used in compressed air systems, to determine their effectiveness in removing oil aerosol, oil vapor and solid particles. The measurements of the air purity downstream the filter for each specific contaminant have been performed according to the test methods described in respectively ISO 8573-2:2007, ISO 8573-5:2001 and ISO 8573-4:2001. Tests have been conducted in-house as well as in external labs, and are independently validated by TÜV.

## ISO certification

Atlas Copco's filters have been fully tested and qualified according to the following ISO standards:

- ISO 8573-1:2010: Compressed air - Contaminants and purity classes
- ISO 8573-2:2007: Compressed air - Test method for oil aerosol content
- ISO 8573-4:2001: Compressed air - Test method for dust
- ISO 8573-5: 2001: Compressed air - Test method for oil vapor and organic solvent content
- ISO 12500-1:2007: Filters for compressed air - test methods - oil aerosols
- ISO 12500-2:2007: Filters for compressed air - test methods - oil vapors
- ISO 12500-3:2009: Filters for compressed air - test methods - particulates



**Certified peace of mind**

FILTER APPROVALS			COMPANY CERTIFICATION		
CE	ASME	CRN	®	®	®
ACTIVE MEMBER OF					
pneurop	CAGI	bcas	VDMA		



# A SOLUTION FOR EVERY APPLICATION

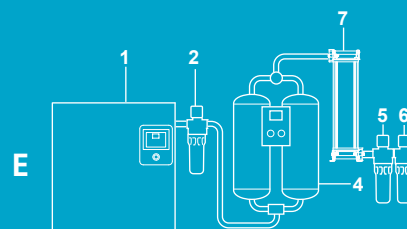
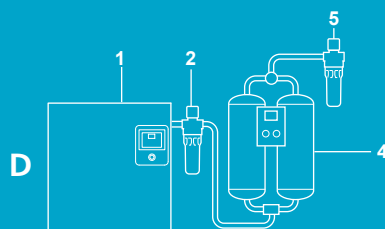
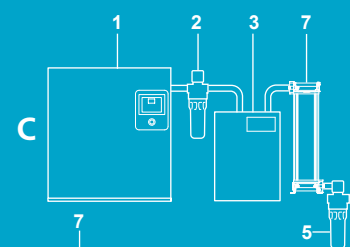
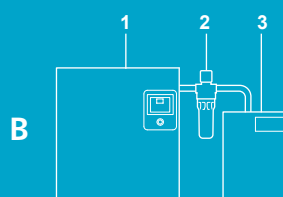
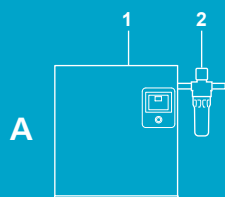
At different points of use, different compressed air purities might be needed, depending on the application. The various air purity classes are provided in the table below, which clearly shows the various Atlas Copco filters and dryers that meet all the different classes.

ISO 8573-1:2010 CLASS	Solid particles		Water	Oil (= aerosol, liquid, vapor)		
	Wet conditions	Dry conditions				
0	As specified by the customer*			Oil-free compressor		
1	DD+ & PD+	DDp+ & PDp+	Desiccant dryer	DD+ & PD+	&	QD+/QDT
	UD+			UD+	&	QD+/QDT
2	DD+	DDp+	Desiccant dryer	DD+ & PD+		
				UD+		
3	DD+	DDp+	Desiccant dryer, membrane dryer, rotary drum dryer	DD+		
4	DD+	DDp+	Membrane dryer, refrigerant dryer	DD+		
5	DD+	DDp+	Membrane dryer, refrigerant dryer	-		
6	-	-	Membrane dryer, refrigerant dryer	-		

\* Please contact your Atlas Copco sales representative.

## Examples of typical installations

<b>A</b>	Compressor - UD+	Air purity class ISO 8573-1:2010 [1:-:2]
<b>B</b>	Compressor - UD+ - Refrigerant dryer	Air purity class ISO 8573-1:2010 [1:4:2]*
<b>C</b>	Compressor - UD+ - Refrigerant dryer - QDT - DDp+	Air purity class ISO 8573-1:2010 [2:4:1]
<b>D</b>	Compressor - UD+ - Desiccant dryer - DDp+	Air purity class ISO 8573-1:2010 [2:2:2]
<b>E</b>	Compressor - UD+ - Desiccant dryer - QDT - DDp+ - PDp+	Air purity class ISO 8573-1:2010 [1:2:1]



**1.** Compressor  
**2.** UD+ filter

**3.** Refrigerant dryer  
**4.** Desiccant dryer

**5.** DDp+ filter  
**6.** PDp+ filter

**7.** QDT filter

\* Particle class 1 is reached directly after UD+. As downstream piping & vessels can add particles, it is advised to install particle filters DDp+ and PDp+ just before the application to reach particle class 1 at point of use.

The compressor should be equipped with a liquid water separation system such as an after cooler including a drain or a water separator (WSD). Always install a water separator in front of a coalescence filter. In case of critical applications, install extra air treatment products at point of use for the removal of pipeline contamination and condensation.

# UD+ SERIES

## Two-in-one oil coalescing filters with supreme energy savings

UD+ filters efficiently reduce oil aerosol, wet dust and water drops in your compressed air stream to protect your investment, equipment and processes. The UD+ combines two filtration steps (DD+ and PD+) into one, a unique technology to meet the high-quality requirements of diverse applications and provide ultimate energy savings.



## YOUR BENEFITS

### 40% energy savings

A 40% lower pressure drop than the conventional filter combination results in 40% higher energy efficiency.

### Pure air

Air purity is equal to that obtained using two filters in line, thanks to the thick filter package of UD+ filters.

### Save space

The two-in-one filtration concept reduces installation space and complexity, making UD+ filters particularly suitable for applications where space is at a premium.

### Save money

Install UD+ filters to enjoy significant cost savings compared to conventional filters.

## Performance

	UD+
Contaminant	Oil aerosol/wet dust
Test method	ISO 8573-2:2007, ISO 12500-1:2007
Maximum oil carry-over (mg/m <sup>3</sup> )*	0.0009
Wet pressure drop (mbar)	245
Element service	After 4,000 operating hours or 1 year
Precede with	Water separation

\* Inlet oil concentration = 10 mg/m<sup>3</sup>. Oil = oil aerosol and liquid.

## Sizing & dimensions

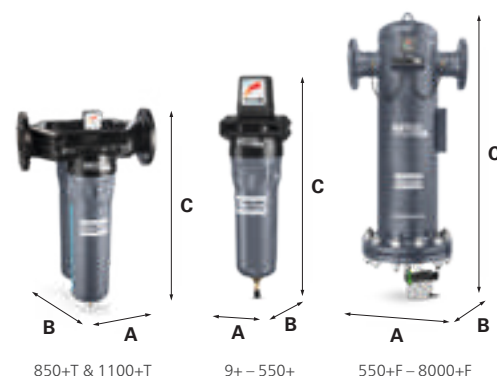
FILTER SIZE UD+	Nominal capacity		Reference pressure		Maximum pressure		Connections	Dimensions						Free space for cartridge replacement		Weight	
								A		B		C		D			
	l/s	cfm	bar(e)	psig	bar(e)	psig		in	mm	in	mm	in	mm	in	mm	in	kg
9+	9	19	7	102	16	232	3/8	90	3.5	61	2.4	268	10.6	75	2.9	1.0	2.2
15+	15	32	7	102	16	232	1/2	90	3.5	61	2.4	268	10.6	75	2.9	1.1	2.4
25+	25	53	7	102	16	232	1/2	90	3.5	61	2.4	323	12.8	75	2.9	1.3	2.9
45+	45	95	7	102	16	232	3/4 & 1	110	4.3	99	3.9	374	14.7	75	2.9	1.6	4.2
60+	60	127	7	102	16	232	1	110	4.3	99	3.9	414	16.3	75	2.9	2.1	4.6
100+	100	212	7	102	16	232	1	140	5.5	105	4.0	425	16.7	100	3.9	3.7	8.2
140+	140	297	7	102	16	232	1-1/2	140	5.5	105	4.1	520	20.5	100	3.9	4.2	9.3
180+	180	381	7	102	16	232	1-1/2	140	5.5	105	4.1	603	23.7	100	3.9	4.5	9.9
220+	220	466	7	102	16	232	1-1/2	140	5.5	105	4.1	603	23.7	100	3.9	4.6	10.1
310+	310	657	7	102	16	232	2 & 2-1/2	179	7.1	121	4.8	689	27.1	150	5.9	6.9	15.2
425+	425	901	7	102	16	232	3	210	8.3	128	5.1	791	31.1	200	7.9	11.0	24.2
550+	550	1165	7	102	16	232	3	210	8.3	128	5.1	961	37.8	200	7.9	12.6	27.8
550+F	550	1165	7	102	16	232	DN80	370	14.6	280	11.0	1295	51.0	1375	54.1	76.0	167.6
850+T	850	1.801	7	102	16	232	DN100	510	20.1	418	16.5	796	31.3	200	7.9	35.2	77.6
850+F	850	1801	7	102	16	232	DN100	510	20.1	410	16.1	1360	53.5	1500	59.1	141.0	310.9
1100+T	1.100	2.331	7	102	16	232	DN100	510	20.1	418	16.5	966	38.0	200	7.9	37.4	82.4
1100+F	1100	2331	7	102	16	232	DN100	510	20.1	410	16.1	1360	53.5	1500	59.1	143.0	315.3
1400+F	1400	2967	7	102	16	232	DN150	620	24.4	485	19.1	1480	58.3	1560	61.4	210.0	463.0
1800+F	1800	3814	7	102	16	232	DN150	640	25.2	490	19.3	1555	61.2	1640	64.6	176.0	388.0
2200+F	2200	4662	7	102	16	232	DN150	640	25.2	490	19.3	1555	61.2	1640	64.6	178.0	392.4
3000+F	3000	6357	7	102	16	232	DN200	820	32.3	650	17.7	1745	68.7	1710	67.3	420.0	925.9
4000+F	4000	8476	7	102	16	232	DN200	820	32.3	650	17.7	1745	68.7	1710	67.3	428.0	943.6
5000+F	5000	10595	7	102	16	232	DN200	820	32.3	650	17.7	1745	68.7	1710	67.3	432.0	952.4
6000+F	6000	12714	7	102	16	232	DN250	920	36.2	815	32.1	2085	82.1	1625	64.0	671.0	1479.3
7000+F	7000	14833	7	102	16	232	DN250	920	36.2	815	32.1	2085	82.1	1625	64.0	675.0	1488.1
8000+F	8000	16952	7	102	16	232	DN300	1040	40.9	930	36.6	2070	81.5	1625	64.0	900.0	1984.2

## Correction factors

Inlet pressure (bar)	1	2	3	4	5	6	7	8	10	12	14	16
Inlet pressure (psig)	15	29	44	58	72.5	87	102	116	145	174	203	232
Correction factor	0.38	0.53	0.65	0.75	0.83	0.92	1.00	1.06	1.20	1.31	1.41	1.50

### Example

- Working pressure 3 bar(g), compressed air flow 35 l/s.
- Multiply the nominal capacity of the selected filter with the corresponding correction factor at the required working pressure to obtain the capacity at working pressure:
  - Size 45+: 45 l/s \* 0.65 = 29 l/s => the 45+ filter size is not large enough.
  - Size 60+: 60 l/s \* 0.65 = 39 l/s => the 60+ filter size is the size to select.



## Options

- Filter connection kit for easy mounting in series (9-550 l/s).
- Wall mounting kit simplifies installation (9-550 l/s).
- Quick coupling connects the filter with a drain or oil/water separator.
- Voltage-free contact mounted in the differential pressure gauge, to give remote indication of cartridge replacement.
- EWD electronic drain with no loss of compressed air and an alarm function (EWD is optional on size 9+ - 550+, 850+T and 1100+T; standard on size 550+F and larger).

## Certification

- ISO 8573-2:2007
- ISO 12500-1:2007



# DD(+)/PD(+) SERIES

## High performance oil coalescing filters

DD(+) and PD(+) filters efficiently reduce oil aerosol, wet dust and water drops in your compressed air stream. These could come from the lubrication of the compressor element, the intake air, and the compressor installation itself. These innovative filtration solutions are engineered to cost-effectively provide the best air purity and meet today's increasing quality demands.



## YOUR BENEFITS

### Maximum oil aerosol, wet dust and water droplet filtration and drainage

High-efficient glass fiber and foam media.

### Significant energy savings & limited system operating costs

Optimal design and filter media allow low pressure losses.

### High reliability

High-performance stainless steel cores, double O-rings, epoxy sealed caps, and anti-corrosive coated filter housing.

### Easy maintenance

External ribs on the threaded housing, or a rotating bottom cover for the welded housings, and push-on elements.

### Monitoring of energy use

Differential pressure indication (indicator for sizes 10-35 l/s, gauge for sizes 50-8000 l/s) (optional for standard range).

## Performance

	DD	PD	DD+	PD+
Contaminant	Oil aerosol/wet dust			
Test method	ISO 8573-2:2007, ISO 12500-1:2007			
Maximum oil carry-over (mg/m <sup>3</sup> )*	0.1*	0.01*	0.07*	0.008*
Wet pressure drop (mbar)	245	280	180	215
Element service	After 4,000 operating hours or 1 year			
Precede with	Water separation	Water separation DD	Water separation	Water separation DD+

\* Inlet oil concentration = 10 mg/m<sup>3</sup>. Oil = oil aerosol and liquid.



## Sizing & dimensions

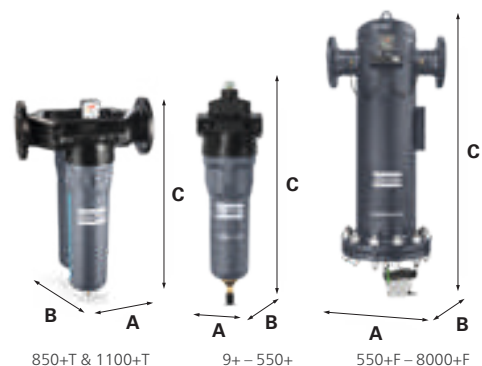
FILTER SIZE DD/PD		Nominal capacity				Reference pressure		Maximum pressure		Connections	Dimensions						Free space for cartridge replacement		Weight	
		Standard		+							A		B		C					
Standard	+	l/s	cfm	l/s	cfm	bar(e)	psig	bar(e)	psig	in	mm	in	mm	in	mm	in	mm	in	kg	lbs
12	10+	12	25	10	21	7	102	16	232	3/8	90	3.5	61	2.4	268	10.6	75	2.9	1.0	2.2
25	20+	25	53	20	42	7	102	16	232	1/2	90	3.5	61	2.4	268	10.6	75	2.9	1.1	2.4
45	35+	45	95	35	74	7	102	16	232	1/2	90	3.5	61	2.4	323	12.7	75	2.9	1.3	2.9
65	50+	65	138	50	106	7	102	16	232	3/4 & 1	110	4.3	99	3.9	374	14.7	75	2.9	1.6	4.2
90	70+	90	191	70	148	7	102	16	232	1	110	4.3	99	3.9	414	16.3	75	2.9	2.1	4.6
160	130+	160	339	130	275	7	102	16	232	1-1/2	140	5.5	105	4.1	520	20.5	100	3.9	4.2	9.3
215	170+	215	456	170	360	7	102	16	232	1-1/2	140	5.5	105	4.1	603	23.7	100	3.9	4.5	9.9
265	210+	265	562	210	445	7	102	16	232	1-1/2	140	5.5	105	4.1	603	23.7	100	3.9	4.6	10.1
360	310+	360	763	310	657	7	102	16	232	2 & 2-1/2	179	7.0	121	4.8	689	27.1	150	5.9	6.9	15.2
525	425+	525	1112	425	901	7	102	16	232	3	210	8.3	128	5.0	791	31.1	200	7.9	11.0	24.2
690	550+	690	1462	550	1165	7	102	16	232	3	210	8.3	128	5.0	961	37.9	200	7.9	12.6	27.8
630F	550+F	630	1335	550	1165	7	102	16	232	DN80	370	14.6	280	11	1295	51.0	1375	54.1	76.0	167.6
-	850+T	-	-	850	1801	7	102	16	232	DN100	510	20.1	418	16.5	796	31.3	200	7.9	35.2	77.6
970F	850+F	970	2055	850	1801	7	102	16	232	DN100	510	20.1	410	16.1	1360	53.5	1500	59.1	141.0	310.9
-	1100+T	-	-	1100	2331	7	102	16	232	DN100	510	20.1	418	16.5	966	38.0	200	7.9	37.4	82.4
1260F	1100+F	1260	2670	1100	2331	7	102	16	232	DN100	510	20.1	410	16.1	1360	53.5	1500	59.1	143.0	415.3
1600F	1400+F	1600	3390	1400	2967	7	102	16	232	DN150	620	24.4	485	19.1	1480	58.3	1560	61.4	210.0	463.0
2200F	1800+F	2200	4662	1800	3814	7	102	16	232	DN150	640	25.2	490	19.3	1555	61.2	1640	64.6	176.0	388.0
2400F	2200+F	2400	5086	2200	4662	7	102	16	232	DN150	640	25.2	490	19.3	1555	61.2	1640	64.6	178.0	392.4
3600F	3000+F	3600	7628	3000	6357	7	102	16	232	DN200	820	32.3	650	25.6	1745	68.7	1710	67.3	420.0	925.9
-	4000+F	-	-	4000	8476	7	102	16	232	DN200	820	32.3	650	25.6	1745	68.7	1710	67.3	428.0	943.6
-	5000+F	-	-	5000	10595	7	102	16	232	DN200	820	32.3	650	25.6	1745	68.7	1710	67.3	432.0	952.4
-	6000+F	-	-	6000	12714	7	102	16	232	DN250	920	32.3	815	32.1	2085	80.3	1625	64	671.0	1479.3
-	7000+F	-	-	7000	14833	7	102	16	232	DN250	920	36.2	815	32.1	2085	82.1	1625	64	675.0	1488.1
-	8000+F	-	-	8000	16952	7	102	16	232	DN300	1040	40.9	930	36.6	2070	81.5	1625	64	900.0	1984.2

## Correction factors

Inlet pressure (bar)	1	2	3	4	5	6	7	8	10	12	14	16
Inlet pressure (psig)	15	29	44	58	72.5	87	102	116	145	174	203	232
Correction factor	0.38	0.53	0.65	0.75	0.83	0.92	1.00	1.06	1.20	1.31	1.41	1.50

### Example

- Working pressure 3 bar(g), compressed air flow 35 l/s.
- Multiply the nominal capacity of the selected filter with the corresponding correction factor at the required working pressure to obtain the capacity at working pressure:
  - Size 50+: 50 l/s \* 0.65 = 33 l/s => the 50+ filter size is not large enough.
  - Size 70+: 70 l/s \* 0.65 = 46 l/s => the 70+ filter size is the size to select.



## Options

- Filter connection kit for easy mounting in series (10+ - 550+ l/s and 12-690 l/s).
- Wall-mounting kit simplifies installation (10+ - 550+ l/s and 12-690 l/s).
- Quick coupling connects the filter with a drain or oil/water separator.
- Voltage-free contact mounted in the differential pressure gauge, to give remote indication of cartridge replacement.
- EWD electronic drain with no loss of compressed air and an alarm function (EWD is optional on sizes 10+ - 550+ l/s and 12-690 l/s; standard on sizes ≥550F).

## Certification

- ISO 8573-2:2007
- ISO 12500-1:2007



EWD electronic drain

# DDp(+)/PDp(+) SERIES

## Optimal dry dust filtration

DDp(+) and PDp(+) filters efficiently prevent dust, particulates and micro-organisms arising from corrosion, dirt and adsorption material from entering your compressed air stream. These innovative filtration solutions are engineered to cost-effectively provide the best air purity and meet today's increasing quality demands.



## YOUR BENEFITS

### Maximum dirt, solid particles, micro-organisms and rust particles removal

High-efficient glass fiber and foam media.

### Significant energy savings & limited system operating costs

Optimal design and filter media allow for low pressure losses.

### High reliability

High-performance stainless steel cores, double O-rings, epoxy sealed caps, and anti-corrosive coated filter housing.

### Easy maintenance

External ribs on the threaded housing, or a rotating bottom cover for the welded housings, and push-on elements.

### Monitoring of energy use

Differential pressure indication (indicator for sizes 10-35 l/s, gauge for sizes 45-8000 l/s) (optional for standard range).

## Performance

	DDp	PDp	DDp+	PDp+
Contaminant	Dry dust			
Test method	ISO 8573-4:2001, ISO 12500-3:2009			
Particle removal efficiency (% at MPPS)	99.81	99.97	99.92	99.98
Dry pressure drop (mbar)	135	150	85	100
Element service	After 4,000 operating hours or 1 year or 350 mbar pressure drop			
Precede with	Dryer	Dryer DDp	Dryer	Dryer DDp+

## Sizing & dimensions

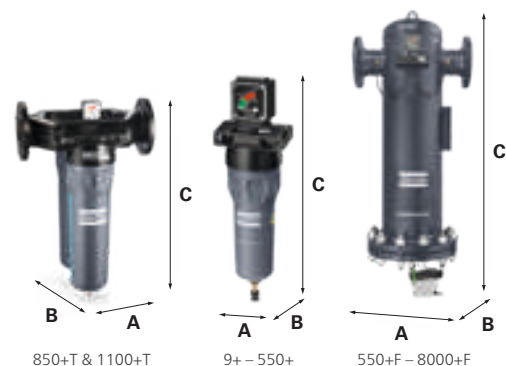
FILTER SIZE DDp/PDp		Nominal capacity				Reference pressure		Maximum pressure		Connections	Dimensions						Free space for cartridge replacement		Weight	
											Standard		+		A					
Standard	+	l/s	cfm	l/s	cfm	bar(e)	psig	bar(e)	psig	in	mm	in	mm	in	mm	in	mm	in	kg	lbs
12	10+	12	25	10	21	7	102	16	232	3/8	90	3.5	61	2.4	268	10.6	75	2.9	1.0	2.2
25	20+	25	53	20	42	7	102	16	232	1/2	90	3.5	61	2.4	268	10.6	75	2.9	1.1	2.4
45	35+	45	95	35	74	7	102	16	232	1/2	90	3.5	61	2.4	323	12.7	75	2.9	1.3	2.9
65	50+	65	138	50	106	7	102	16	232	3/4 & 1	110	4.3	99	3.9	374	14.7	75	2.9	1.6	4.2
90	70+	90	191	70	148	7	102	16	232	1	110	4.3	99	3.9	414	16.3	75	2.9	2.1	4.6
160	130+	160	339	130	275	7	102	16	232	1-1/2	140	5.5	105	4.1	520	20.5	100	3.9	4.2	9.3
215	170+	215	456	170	360	7	102	16	232	1-1/2	140	5.5	105	4.1	603	23.7	100	3.9	4.5	9.9
265	210+	265	562	210	445	7	102	16	232	1-1/2	140	5.5	105	4.1	603	23.7	100	3.9	4.6	10.1
360	310+	360	763	310	657	7	102	16	232	2 & 2-1/2	179	7.0	121	4.8	689	27.1	150	5.9	6.9	15.2
525	425+	525	1112	425	901	7	102	16	232	3	210	8.3	128	5.0	791	31.1	200	7.9	11.0	24.2
690	550+	690	1462	550	1165	7	102	16	232	3	210	8.3	128	5.0	961	37.9	200	7.9	12.6	27.8
630F	550+F	630	1335	550	1165	7	102	16	232	DN80	370	14.6	280	11	1295	51.0	1375	54.1	76.0	167.6
-	850+T	-	-	850	1801	7	102	16	232	DN100	510	20.1	418	16.5	796	31.3	200	7.9	35.2	77.6
970F	850+F	970	2055	850	1801	7	102	16	232	DN100	510	20.1	410	16.1	1360	53.5	1500	59.1	141.0	310.9
-	1100+T	-	-	1100	2331	7	102	16	232	DN100	510	20.1	418	16.5	966	38.0	200	7.9	37.4	82.4
1260F	1100+F	1260	2670	1100	2331	7	102	16	232	DN100	510	20.1	410	16.1	1360	53.5	1500	59.1	143.0	415.3
1600F	1400+F	1600	3390	1400	2967	7	102	16	232	DN150	620	24.4	485	19.1	1480	58.3	1560	61.4	210.0	463.0
2200F	1800+F	2200	4662	1800	3814	7	102	16	232	DN150	640	25.2	490	19.3	1555	61.2	1640	64.6	176.0	388.0
2400F	2200+F	2400	5086	2200	4662	7	102	16	232	DN150	640	25.2	490	19.3	1555	61.2	1640	64.6	178.0	392.4
3600F	3000+F	3600	7628	3000	6357	7	102	16	232	DN200	820	32.3	650	25.6	1745	68.7	1710	67.3	420.0	925.9
-	4000+F	-	-	4000	8476	7	102	16	232	DN200	820	32.3	650	25.6	1745	68.7	1710	67.3	428.0	943.6
-	5000+F	-	-	5000	10595	7	102	16	232	DN250	820	32.3	650	25.6	1745	68.7	1710	67.3	432.0	952.4
-	6000+F	-	-	6000	12714	7	102	16	232	DN250	920	32.3	815	32.1	2085	80.3	1625	64	671.0	1479.3
-	7000+F	-	-	7000	14833	7	102	16	232	DN300	920	36.2	815	32.1	2085	82.1	1625	64	675.0	1488.1
-	8000+F	-	-	8000	16952	7	102	16	232	DN300	1040	40.9	930	36.6	2070	81.5	1625	64	900.0	1984.2

## Correction factors

Inlet pressure (bar)	1	2	3	4	5	6	7	8	10	12	14	16
Inlet pressure (psig)	15	29	44	58	72.5	87	102	116	145	174	203	232
Correction factor	0.38	0.53	0.65	0.75	0.83	0.92	1.00	1.06	1.20	1.31	1.41	1.50

### Example

- Working pressure 3 bar(g), compressed air flow 35 l/s.
- Multiply the nominal capacity of the selected filter with the corresponding correction factor at the required working pressure to obtain the capacity at working pressure:
  - Size 50+: 50 l/s \* 0.65 = 33 l/s => the 50+ filter size is not large enough.
  - Size 70+: 70 l/s \* 0.65 = 46 l/s => the 70+ filter size is the size to select.



## Options

- Filter connection kit for easy mounting in series (10+ - 550+ l/s and 12-690 l/s).
- Wall-mounting kit simplifies installation (10+ - 550+ l/s and 12-690 l/s).
- Voltage-free contact mounted in the differential pressure gauge, to give remote indication of cartridge replacement.

## Certification

- ISO 8573-4:2001
- ISO 12500-3:2009

Voltage-free contact



# QDT SERIES

## Activated carbon towers for optimal oil vapor filtration

The high efficiency activated carbon tower is capable of removing hydrocarbons, odors and oil vapor from compressed air.

The activated carbon will, by the use of adsorption, reduce the residual oil content to lower than 0.003 mg/m<sup>3</sup>.

The pressure drop is low and stays minimal during the filter's lifetime.



## YOUR BENEFITS

### Maximum oil vapor removal

Superb activated carbon material.

### Low pressure drop

Optimal internal flow path.

### High reliability

Robust design and optimal filter material.

### Options

- Oil indicator ensures pure air.
- Wall mounting kit for easy installation (20 – 185 l/s).



### Certification

ISO 8573-5:2001

## Performance

	QDT
Contaminant	Oil vapor
Test method	ISO 8573-5:2001, ISO 12500-2:2007
Maximum oil carry-over (mg/m <sup>3</sup> )*	0.003
Dry pressure drop (mbar)	125 (QDT 20-310) 72 (QDT 425-1800)
Element service	After 4,000 operating hours or 1 year
Precede with	Water separation UD+ or DD+/PD+ Dryer

\* After UD+ or DD+/PD+ with inlet oil concentration of 10 mg/m<sup>3</sup>.



## Sizing & dimensions

FILTER SIZE QDT	Nominal capacity		Connections G or NPT threaded	Dimensions						Weight	
				A		B		C			
	l/s	cfm	DIN or ANSI flanged	mm	in	mm	in	mm	in	kg	lbs
20	20	42	1/2"	490	19	223	9	190	7	10	22
45	45	95	1"	715	28	223	9	190	7	15	33
60	60	127	1"	840	33	223	9	190	7	18	40
95	95	210	1"	715	28	387	15	190	7	29	64
125	125	265	1 1/2"	840	33	387	15	190	7	34	75
150	150	318	1 1/2"	715	28	551	22	190	7	42	93
185	185	392	1 1/2"	840	33	551	22	190	7	50	110
245	245	519	1 1/2"	840	33	715	28	190	7	67	148
310	310	657	1 1/2"	840	33	879	35	190	7	84	185
425	425	901	DN80 / 3"	2148	85	710	28	600	24	264	581
550	550	1165	DN80 / 3"	2190	86	710	28	670	26	302	664
850	850	1801	DN100 / 4"	2320	91	724	29	805	32	391	860
1100	1100	2331	DN100 / 4"	2450	97	934	37	820	32	602	1324
1800	1800	3814	DN150 / 6"	2612	103	1046	41	980	39	882	1940

## Correction factors

For other compressed air inlet temperatures, please multiply the filter capacity by the following correction factor (Kt):

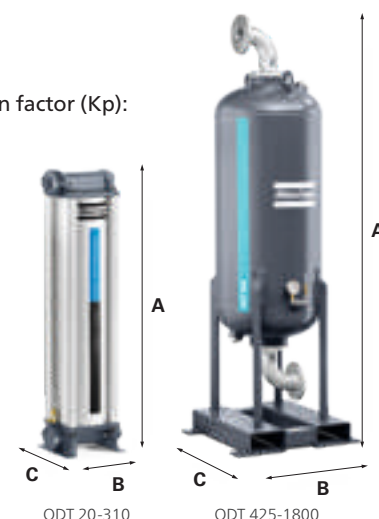
Inlet temperature °C	20	25	30	35	40	45	50	55	60
Inlet temperature °F	68	77	96	95	104	113	122	131	140
Correction factor	1	1	1	1	0.85	0.67	0.59	0.48	0.42

For other compressed air inlet pressures, please multiply the filter capacity by the following correction factor (Kp):

Inlet pressure bar	3	4	5	6	7	8	9	10	11	12	13
Inlet pressure psi	44	58	73	87	102	116	131	145	160	174	193
Correction factor	0.57	0.77	0.83	1	1	1	1	1.05	1.05	1.11	1.18

### Example

- Working temperature 50°C, pressure 12 bar(g), compressed air flow 120 l/s.
- Multiply the nominal capacity of the selected filter with the corresponding correction factors at the required working temperature and pressure to obtain the capacity at operating condition
  - QDT 150:  $150\text{ l/s} \times 0.59 \times 1.11 = 98\text{ l/s} \Rightarrow$  A QDT 150 filter is not large enough
  - QDT 195:  $195\text{ l/s} \times 0.59 \times 1.11 = 128\text{ l/s} \Rightarrow$  A QDT 195 filter is the correct size



## UD+ & QDT: the winning combination



## CLASS 1: Total oil, according ISO 8573-1:2010

The Atlas Copco UD+ - QDT filter train meets the requirements of air purity class 1 for total oil, according to ISO 8573-1:2010, in a typical compressed air installation.



UD+	QDT
Liquid oil & oil aerosol removal	Oil vapor removal
Guaranteed 0.0009 mg/m <sup>3</sup> aerosol and liquid	Guaranteed 0.003 mg/m <sup>3</sup> vapor
40% pressure drop reduction compared to DD+/PD+	65% pressure drop reduction compared to previous QDT
50% footprint reduction	Extremely compact compared to vessel designs

# QD(+) SERIES

## High performance oil vapor filters

QD(+) filters efficiently reduce hydrocarbons, odors and oil vapor in your compressed air stream to protect your investment, equipment and processes. The activated carbon layers will, by the use of adsorption, reduce the residual oil content to less than 0.003 mg/m<sup>3</sup>. The pressure drop is low and stays minimal during the lifetime of the filter.



## YOUR BENEFITS

### Maximum oil vapor removal

Highly efficient activated carbon layers.

### Significant energy savings & limited system operating costs

Low pressure losses.

### High reliability

High-performance stainless steel cores, double O-rings, epoxy sealed caps, and anti-corrosive coated filter housing.

### Easy maintenance

External ribs on the threaded housing, or a rotating bottom cover for the welded housings, and push-on elements.

## Options

- Filter connection kit for easy mounting in series (10+ - 550+ l/s and 12-690 l/s).
- Wall mounting kit simplifies installation (10+ - 550+ l/s and 12-690 l/s).

For sizing and dimensions, please refer to the product pages of the DD(+) & PD(+) Series.

## Performance

	QD	QD+
Contaminant	Oil vapor	
Test method	ISO 8573-5:2001	
Maximum oil carry-over (mg/m <sup>3</sup> )*	0.003*	
Dry pressure drop (mbar)	190	140
Element service	After 1,000 operating hours or 1 year. Service life is decreased when inlet temperature exceeds 35°C, 95°F	
Precede with	Water separation DD/PD Dryer	Water separation UD+ or DD+/PD+ Dryer

\* After UD+ or DD(+)/PD(+) with inlet oil concentration of 10 mg/m<sup>3</sup>.

# SFA SERIES

## Silicone-free removal of oil aerosol, dust and oil vapor

Superb air purity is a prerequisite to safeguard your instruments and end product. Our silicone-free SFA filters efficiently prevent dry and wet dust, particulates, oil aerosol and water drops from entering your compressed air system. The SFA series is manufactured and treated according to the high standards of silicone-free equipment, and certified by the Fraunhofer Institute as guaranteed silicone-free.



## YOUR BENEFITS

### Maximum contaminant removal

Removal of dry and wet dust, particulates, oil aerosol and water droplets. High-efficiency glass fiber and fleece media.

### Significant energy savings & limited system operating costs

Optimal design and filter media allow for low pressure drops.

### High reliability

High-performance stainless steel cores, double O-rings, epoxy sealed caps and anti-corrosive coated filter housing.

### Easy maintenance

External ribs on the threaded housing and push-on elements.

### Monitoring of energy use

Differential pressure indication (indicator for sizes 9-32 l/s, gauge for sizes 44-520 l/s) (optional).

## Applications

- Painting
- Automotive

## Options

- Filter connection kit (9-520 l/s).
- Wall-mounting kit (9-520 l/s).
- Quick coupling (DD & PD only).
- EWD no-loss electronic drain (DD & PD only).
- Voltage-free contact mounted in the differential gauge (not for QD).

## Certification

Paint compatibility certificate (Fraunhofer Institute)



The performance of the SFA filters is comparable to the performance of the + range filters (please refer to pages 8, 10 and 14).

## Sizing & dimensions

FILTER SIZE	Nominal capacity*		Maximal capacity*		Connections G or NPT	Dimensions						Free space for cartridge replacement		Weight	
						A		B		C		D			
DD, DDp, PD, PDp, QD	l/s	cfm	l/s	cfm	in	mm	in	mm	in	mm	in	mm	in	kg	lbs
9	9	19	11	23	3/8	90	3.54	61	2.40	268	10.55	75	2.95	1	2.2
17	17	36	21	45	1/2	90	3.54	61	2.40	268	10.55	75	2.95	1.1	2.4
32	32	68	40	85	1/2	90	3.54	61	2.40	323	12.72	75	2.95	1.3	2.9
44	44	93	55	117	3/4 & 1	110	4.33	98.5	3.88	374	14.72	75	2.95	1.9	4.19
60	60	127	75	159	1	110	4.33	98.5	3.88	414	16.3	75	2.95	2.1	4.6
120	120	254	150	318	1-1/2	140	5.51	105	4.13	520	20.47	100	3.94	4.2	9.3
150	150	318	188	399	1-1/2	140	5.51	105	4.13	603	23.47	100	3.94	4.5	9.9
175	175	371	219	464	1-1/2	140	5.51	105	4.13	603	23.47	100	3.94	4.6	10.1
280	280	594	350	742	2 & 2-1/2	179	7.05	121	4.76	689	27.13	150	5.91	6.9	15.2
390	390	827	488	1035	3	210	8.27	128	5.04	791	31.14	200	7.87	11	24.2
520	520	1102	650	1378	3	210	8.27	128	5.04	961	37.83	200	7.87	12.6	27.8

\* Nominal pressure: 7 bar(e)/102 psig; temperature: 20°C, 68°F.



# H SERIES

## Guaranteed air purity up to 350 bar

High pressure filters efficiently reduce oil aerosol, dust and wet dust, particulates, water droplets and oil vapor in your compressed air stream to protect your investment, equipment and processes. Our innovative high pressure filtration solutions are engineered to cost effectively provide the best air purity and meet today's increasing quality demands up to working pressures of 350 bar. All high pressure filter housings are hydraulically tested to ensure safe and reliable operation at all times. A pressure test certificate accompanies each filter.



## YOUR BENEFITS

### Maximum contaminant removal (dry & wet dust, particulates, oil aerosol and water droplets)

High-efficient glass fiber and fleece media.

### Significant energy savings & limited system operation cost

Optimal design and filter media allow for low pressure losses.

### High reliability

High-performance stainless steel cores, double O-rings, epoxy sealed caps and anti-corrosive coated filter housing.

### Applications

- Chemical
- Food & beverage
- Manufacturing
- Military
- Oil & gas

## Performance

	DDHp+	PDHp+	DDH+	PDH+	QDH+
Contaminant	Dry dust		Oil aerosol/wet dust		Oil vapor
Test method	ISO 8573-4:2001 ISO 12500-3:2009		ISO 8573-2:2007 ISO 12500-1:2007		ISO 8573-5:2001
Maximum oil carry-over (mg/m <sup>3</sup> )	-	-	0.08*	0.007*	0.003**
Particle removal efficiency (% at MPPS)	99.92 (0.1)	99.98 (0.06)	N/A	N/A	N/A
Dry pressure drop (mbar)	85	100	N/A	N/A	140
Wet pressure drop (mbar)	N/A	N/A	180	215	N/A
Element service	After 4,000 operating hours or 1 year or 350 mbar pressure drop		After 4,000 operating hours or 1 year		After 1,000 operating hours or 1 year
Precede with	N/A	DDHp+	N/A	DDH+	DDH+/PDH+

Always install a liquid water separation system in front of a filter. Water separation is not needed in the high pressure line if there is a sufficiently low PDP in the low pressure line (e.g. nitrogen skid, low pressure line with adsorption dryer).

\* Inlet oil concentration = 10 mg/m<sup>3</sup>. Oil = oil aerosol and liquid.

\*\* After DD(+)/PD(+) with inlet oil concentration of 10 mg/m<sup>3</sup>.



## Sizing & dimensions

Filter Size	Nominal capacity			Connections	Dimensions						Weight	
					A		B		C			
DDH, DDHp, PDH, PDHp, QDH	m³/h	l/s	cfm	in	mm	in	mm	in	mm	in	kg	lbs
20 bar Aluminum												
15+	54	15	32	3/8	90	3.5	61	2.4	268	10.6	1.0	2.2
32+	115	32	68	1/2	90	3.5	61	2.4	268	10.6	1.1	2.4
55+	198	55	117	1/2	90	3.5	61	2.4	323	12.7	1.3	2.9
80+	288	80	170	3/4 & 1	110	4.3	99	3.9	374	14.7	1.6	3.5
110+	396	110	233	1	110	4.3	99	3.9	414	16.3	2.1	4.6
200+	720	200	424	1 1/2	140	5.5	105	4.1	520	20.5	4.2	9.3
270+	972	270	572	1 1/2	140	5.5	105	4.1	603	23.7	4.5	9.9
330+	1188	330	699	1 1/2	140	5.5	105	4.1	603	23.7	4.6	10.1
490+	1764	490	1038	2 & 2 1/2	179	7.0	121	4.8	689	27.1	6.9	15.2
50 bar Aluminum												
160+	160	44	94	1/4	63	2.5	63	2.5	150	5.9	0.3	0.7
250+	250	69	147	3/8	63	2.5	63	2.5	190	7.4	0.3	0.7
450+	450	125	265	1/2	114	4.4	114	4.4	305	11.9	2.6	5.7
550+	550	153	324	3/4	114	4.4	114	4.4	305	11.9	2.6	5.7
835+	835	232	491	1	114	4.4	114	4.4	395	15.4	3.3	7.3
1250+	1250	347	736	1 1/2	146	5.7	146	5.7	435	17.0	7.5	16.5
1725+	1725	479	1015	1 1/2	146	5.7	146	5.7	435	17.0	7.5	16.5
1925+	1925	535	1133	2	146	5.7	146	5.7	435	17.0	7.5	16.5
3200+	3200	889	1883	2	146	5.7	146	5.7	635	24.8	10	22.0
50 bar Stainless Steel												
100+	100	28	59	1/4	85	3.3	85	3.3	202	7.9	1.7	3.7
200+	200	56	118	3/8	85	3.3	85	3.3	227	8.9	2	4.4
340+	340	94	200	1/2	85	3.3	85	3.3	257	10.0	2.2	4.8
500+	500	139	294	3/4	110	4.3	110	4.3	270	10.5	4	8.8
1000+	1000	278	589	1	110	4.3	110	4.3	422	16.5	5	11.0
1700+	1700	472	1000	1 1/2	150	5.9	150	5.9	517	20.2	15	33.1
2040+	2040	567	1200	2	150	5.9	150	5.9	517	20.2	15	33.1
3400+	3400	944	2000	2	150	5.9	150	5.9	817	31.9	21	46.3
100 bar Stainless Steel												
100+	100	28	59	1/4	65	2.5	65	2.5	135	5.3	3.2	7.1
315+	315	88	185	1/2	65	2.5	65	2.5	250	9.8	5.6	12.3
460+	460	128	271	3/4	88	3.4	88	3.4	275	10.7	6.1	13.4
680+	680	189	400	1	135	5.3	135	5.3	265	10.3	10.5	23.1
1200+	1200	333	706	1	135	5.3	135	5.3	480	18.7	14.7	32.4
1700+	1700	472	1000	1 1/2	150	5.9	150	5.9	525	20.5	22	48.5
3400+	3400	944	2000	2	150	5.9	150	5.9	815	31.8	28	61.7
350 bar Stainless Steel												
48+	48	13	28	1/4	41	1.6	41	1.6	103	4.0	1.6	3.5
111+	111	31	65	1/4	65	2.5	65	2.5	135	5.3	3.2	7.1
255+	255	71	150	1/2	88.5	3.5	88.5	3.5	210	8.2	5.6	12.3
510+	510	142	300	3/4	88.5	3.5	88.5	3.5	280	10.9	6.1	13.4
750+	750	208	441	1	150	5.9	150	5.9	330	12.9	14.5	32.0
1330+	1330	369	783	1	150	5.9	150	5.9	480	18.7	17.4	38.3

## Correction factors

20 bar Aluminum										
Operating pressure	barg	-	-	-	-	-	14	16	18	20
	psig	-	-	-	-	-	203	232	261	290
Correction factor							0.9	0.95	1	1.05
50 bar Aluminum & Stainless Steel										
Operating pressure	barg	4	6	8	10	15	20	30	40	50
	psig	58	87	116	145	218	290	435	581	726
Correction factor		0.14	0.22	0.28	0.34	0.47	0.56	0.7	0.85	1
100 bar Stainless Steel										
Operating pressure	barg	20	30	40	50	60	70	80	90	100
	psig	290	435	581	726	871	1016	1161	1306	1451
Correction factor		0.45	0.57	0.68	0.8	0.84	0.88	0.92	0.96	1
350 bar Stainless Steel										
Operating pressure	barg	-	-	50	100	150	200	250	300	350
	psig	-	-	726	1451	2177	2903	3628	4354	5080
Correction factor				0.73	0.78	0.82	0.87	0.91	0.96	1



### Example

- Working pressure 300 bar(g), compressed air flow 500 m³/h.
- Multiply the nominal capacity of the selected filter with the corresponding correction factor at the required working pressure to obtain the capacity at working pressure:
  - Size 510+: 510 m³/h \* 0.96 = 490 m³/h => the 510+ filter size is not large enough.
  - Size 750+: 750 m³/h \* 0.96 = 720 m³/h => the 750+ filter size is the size to select.

# MV SERIES

## Medical vacuum filters for optimal protection of man and machine

Medical vacuum filters are installed at the inlet of the vacuum pump to remove any liquid, solid or bacterial contamination which could damage the vacuum pump and biologically infect the downstream air. Our innovative medical vacuum filtration solutions comply with HTM medical standards.



## YOUR BENEFITS

### Maximum contaminant removal

Removal of dry and wet dust, particulates, oil aerosol and water droplets. High-efficiency glass fiber and fleece media.

### Significant energy savings & limited system operation cost

Optimal design and filter media allow for low pressure losses.

### High reliability

High performance stainless steel cores, double O-rings, epoxy sealed caps and anti-corrosive coated filter housing.

### Easy maintenance

External ribs on the threaded housing and push-on elements.

### Monitoring of energy use

Differential pressure indication show the pressure loss.



## Applications

- Medical
- Dental
- Veterinary

## Performance

	MV
Contaminant	Dry dust
Maximum temperature	60°C/140°F
Maximum working vacuum	Full vacuum
Test method	Sodium flame test BS 3928:1969, based on requirements of HTM2022
Particle removal efficiency (%)*	99.995
Dry pressure drop (mbar)	30
Element service	After 2,000 operating hours or 1 year or 100 mbar pressure drop

\* In accordance with BS 3928-1969.

## Sizing & dimensions

FILTER SIZE MV	Nominal Capacity	Connections	Dimensions						Weight	
			A		B		C			
	l/min	in	mm	in	mm	in	mm	in	kg	lbs
10	400	1/2	60	2	90	4	240	9	1.3	2.9
20	800	1	76	3	110	4	300	12	2.1	4.6
60	2400	1 1/2	103	4	140	5	489	19	4.6	10.1
80	3400	2	135	5	179	7	575	22	6.9	15.2
120	4900	3	155	6	210	8	677	26	11.0	24.2
160	6700	3	155	6	210	8	847	33	12.6	27.8

## Correction factors

Operating pressure	bar(a)	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
	Psig	1	3	4	6	7	9	10	12	13	15
	Torr = mm Hg	75	150	225	300	375	450	525	600	675	750
Correction factor		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1

### Example

- Working vacuum 300 mbar(a), capacity 1,000 l/min.
- Multiply the nominal capacity of the selected filter with the corresponding correction factor at the required working vacuum to obtain the correct capacity:
  - Size 60: 2,400 l/min \* 0.3 = 720 l/min => the 60 filter size is not large enough.
  - Size 80: 3,400 l/min \* 0.3 = 1,020 l/min => the 80 filter size is the size to select.



## Options

- Wall mounting kit.
- Drain flask.



Drain flask



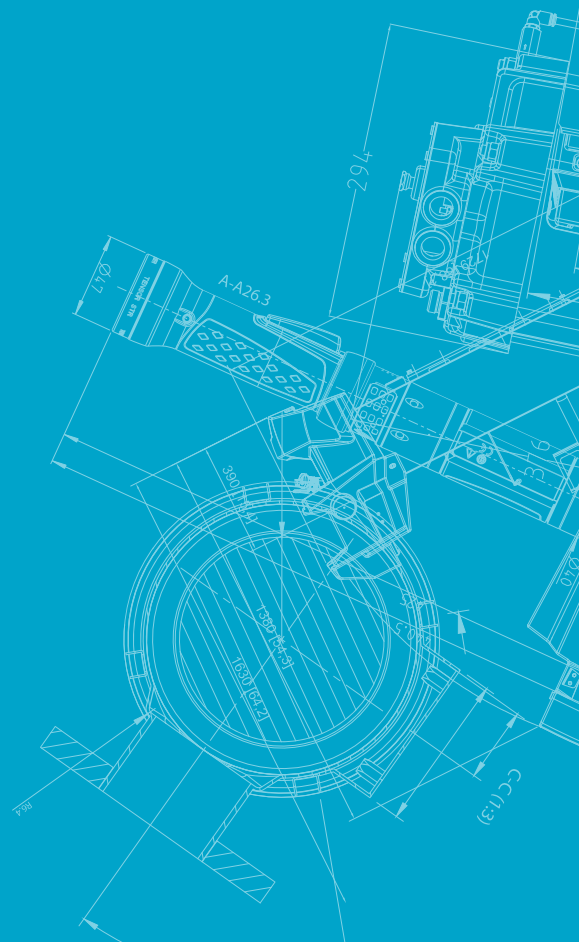
## Certification

BS 3928 Sodium flame test certificate based on requirements of HTM2022.



**Atlas Copco**

[atlascopco.com](http://atlascopco.com)





# Oil-injected rotary screw compressors

GA 11+-30 (50 Hz)  
(11-30 kW / 15-40 hp)

*Sustainable Productivity*

*Atlas Copco*

## *The industry-leading performer*

Advanced connectivity and control, ground-breaking efficiency, superior reliability, ... the GA 11+-30 meets and exceeds the highest expectations. In addition, it comes with the widest range of options so you can tailor the unit to your specific requirements. If you need the very best, the GA 11+-30 delivers without compromise.



## FEATURES AND BENEFITS



### **Superior performance**

- State-of-the-art compression element coupled with a maintenance-free gearbox.
- 100% continuous duty cycle.
- Motor and drive train are greased for life to avoid improper re-greasing.
- Reduced electrical cubicle temperature doubles electrical component lifetime.
- Integrated dryer with heat exchanger and integrated water separator for dry, quality air.
- Best-in-class low noise levels.



### **Supreme energy efficiency**

- IE4 efficiency rated motor.
- Free Air Delivery increased by 6-10%.
- Power consumption reduced by 3-8%.



### **Quick installation & maintenance**

- Delivered plug & play.
- Easy transportation.
- Main components are easily accessible.



### **State-of-the-art monitoring & control**

- High-tech Elektronikon® Touch controller with high-definition color display, easy to use and built to perform in the toughest conditions.
- Week timer, remote monitoring and maintenance scheduling.
- Built-in phase sequence relay for motor control and protection.
- Standard SMARTLINK remote monitoring to maximize air system performance and energy savings.
- Optional multiple compressor control.



## DIMENSIONS



## OPTIONS

- Integrated filter
- Dryer bypass
- Motor thermistors and anti-condensation heaters
- Tropical thermostat
- Freeze protection
- Heavy duty air inlet filter
- Fan Saver Cycle
- Compressor inlet pre-filter
- Rain protection
- Lifting device
- Nema 4 & Nema 4X cubicle
- EQi central control license for 4 or 6 machines (available on Elektronikon® Touch only)
- Food-grade oil
- Roto-Xtend duty oil
- Energy recovery
- Modulating control
- High ambient temperature versions (55°C/131°F for pack, 50°C/122°F for FF)
- Dryer Save Cycle

## TECHNICAL SPECIFICATIONS

Compressor type	Max. working pressure				Capacity FAD*			Installed motor power		Noise level**	Weight		
	WorkPlace		WorkPlace Full Feature								Work- Place	WorkPlace Full Feature	
	bar(e)	psig	bar(e)	psig	l/s	m³/hr	cfm	kW	hp	dB(A)	kg	kg	
GA 11+													
7.5	7.5	109	7.3	105	37.2	133.9	78.8	11	15	68	411	451	
8.5	8.5	116	8.3	120	35.7	128.5	75.6	11	15	68	411	451	
10	10	145	9.8	141	32.3	116.3	68.4	11	15	68	411	451	
13	13	189	12.8	185	26.7	96.1	56.6	11	15	68	411	451	
GA 15+													
7.5	7.5	109	7.3	105	51.7	186.1	109.5	15	20	69	427	483	
8.5	8.5	116	8.3	120	46.1	166.0	97.7	15	20	69	427	483	
10	10	145	9.8	141	41.1	148.0	87.1	15	20	69	427	467	
13	13	189	12.8	185	36.9	132.8	78.2	15	20	69	427	467	
GA 18+													
7.5	7.5	109	7.3	105	62.6	225.4	132.6	18.5	25	69	428	484	
8.5	8.5	116	8.3	120	58.2	209.5	123.3	18.5	25	69	428	484	
10	10	145	9.8	141	51.3	184.7	108.7	18.5	25	69	428	484	
13	13	189	12.8	185	45.8	164.9	97.0	18.5	25	69	428	484	
GA 22+													
7.5	7.5	109	7.3	105	72.6	261.4	153.8	22	30	67	487	545	
8.5	8.5	116	8.3	120	69.7	250.9	147.7	22	30	67	487	545	
10	10	145	9.8	141	62.6	225.4	132.6	22	30	67	487	545	
13	13	189	12.8	185	55.1	198.4	116.8	22	30	67	487	545	
GA 26+													
7.5	7.5	109	7.3	105	87.2	313.9	184.8	26	35	68	490	548	
8.5	8.5	116	8.3	120	83.7	301.3	177.4	26	35	68	490	548	
10	10	145	9.8	141	76.5	275.4	162.1	26	35	68	490	545	
13	13	189	12.8	185	66.2	238.3	140.3	26	35	68	490	545	
GA 30													
7.5	7.5	109	7.3	105	94.0	338.4	199.2	30	40	70	509	567	
8.5	8.5	116	8.3	120	93.1	335.2	197.3	30	40	70	509	567	
10	10	145	9.8	141	86.4	311.0	183.1	30	40	70	509	567	
13	13	189	12.8	185	77.0	277.2	163.2	30	40	70	509	567	

\* Unit performance measured according to ISO 1217, Annex C, latest edition.

\*\* Mean noise level measured according to ISO 2151/Pneuro/Cagi PN6NTC2 test code; tolerance 2 dB(A).

### Reference conditions:

- Absolute inlet pressure 1 bar (14.5 psi)
- Intake air temperature 20°C/68°F

### FAD is measured at the following working pressures:

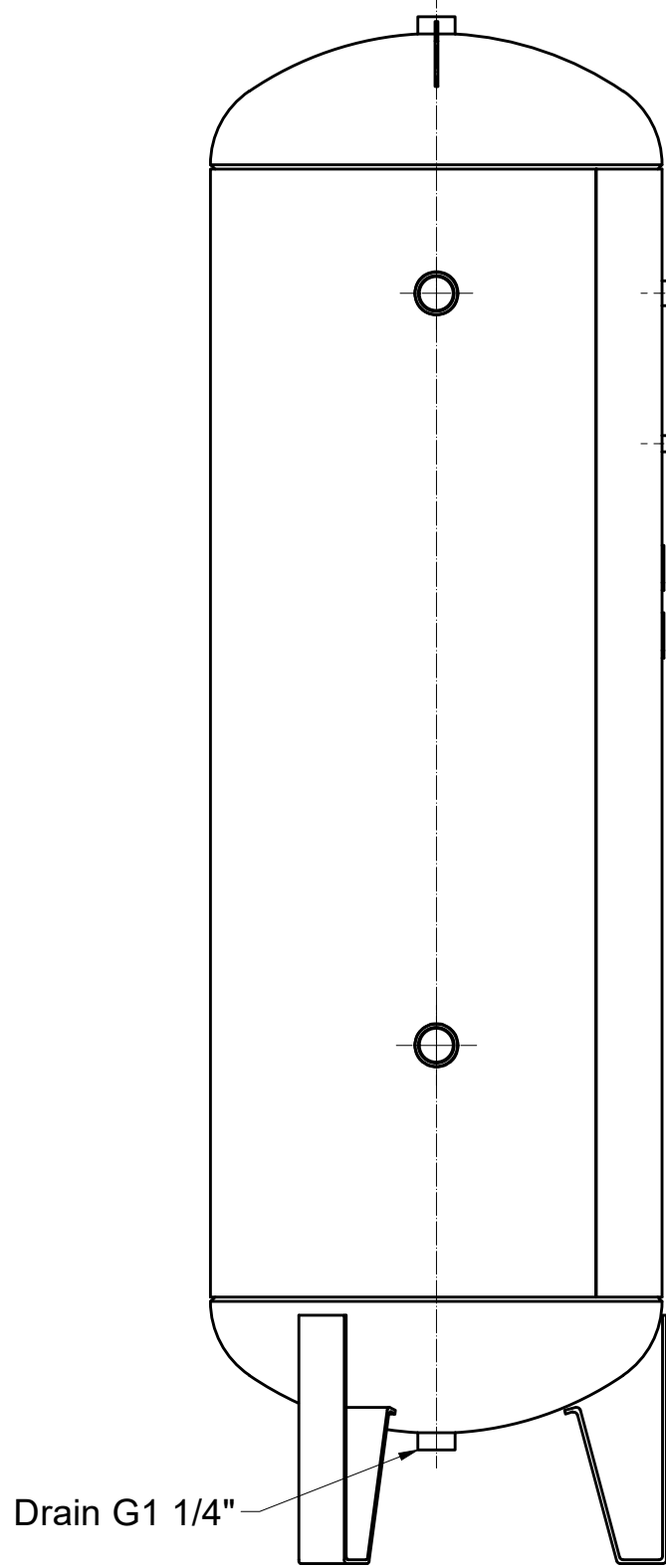
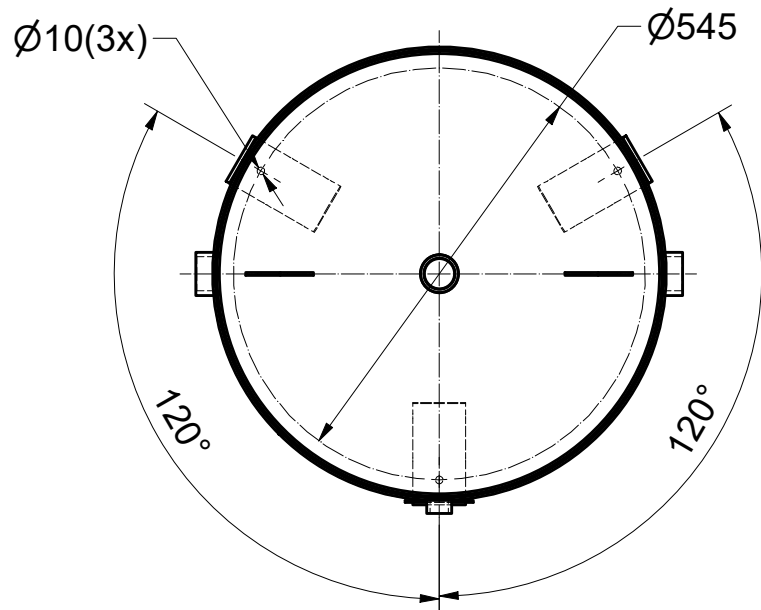
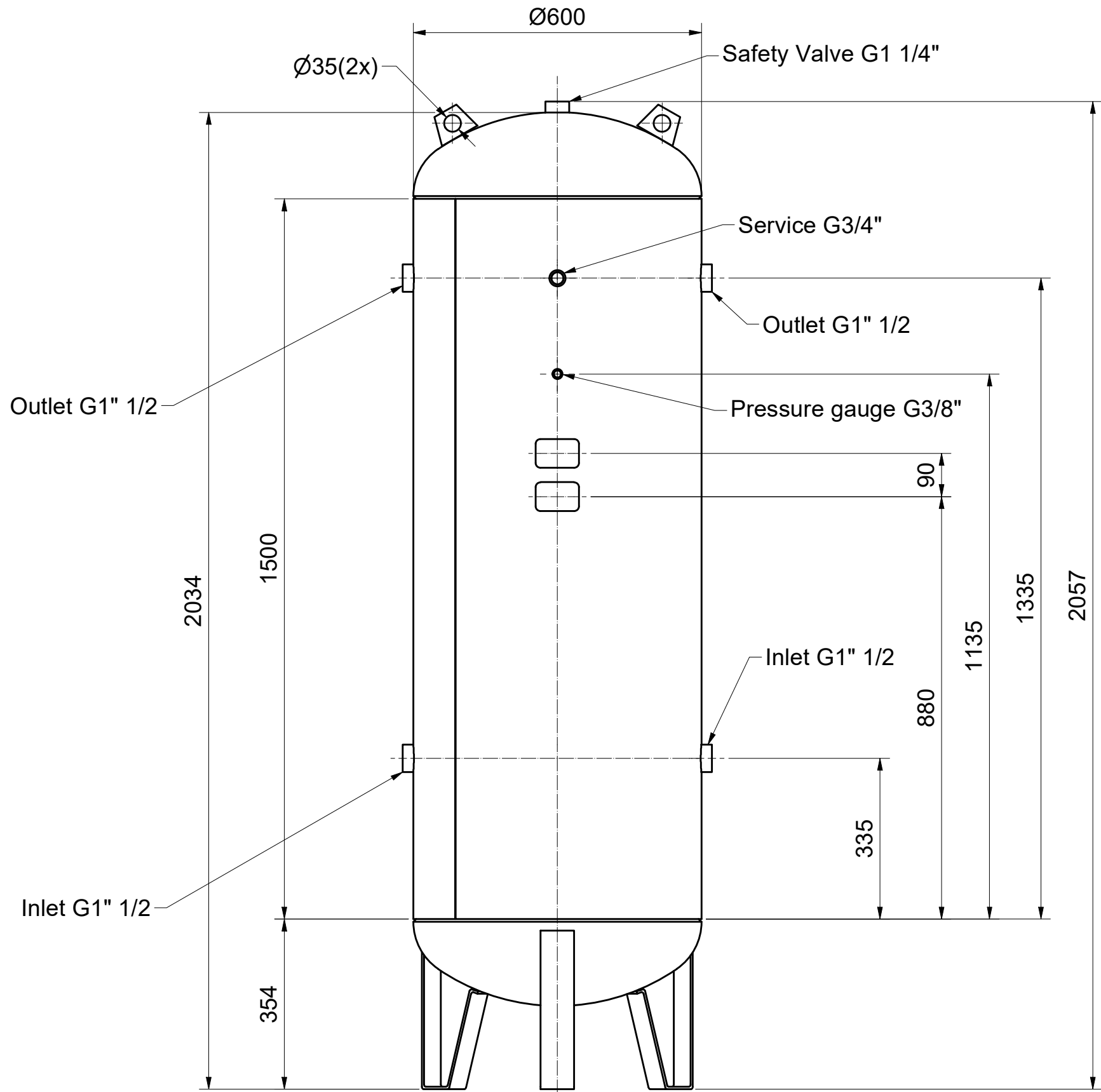
- 7.5 bar versions at 7 bar
- 8 bar versions at 8 bar
- 10 bar versions at 9.5 bar
- 13 bar versions at 12.5 bar

Pressure dewpoint of integrated refrigerant dryer of GA 11\* - GA 15\* - GA 18\* - GA 22\* - GA 26\* - GA 30 at reference conditions 2°C to 3°C/36°F to 37°F.

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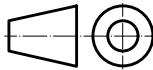
1				
Ed	Position	Modified from	Date	Intr./Appd.



- Notes:-
- Suited for oxygen use according to specification 9828 5303 00.
  - External treatment: painted RAL 7047.
  - Internal treatment: VITROFLEX coating.
  - Weight : 130 kg.

Designed, built, tested, certified and marked according European Directive: 2014/68/EU:		CAT IV
Medium	OXYGEN	
Design pressure	11 bar	
Min. Design temperature	-10 °C	
Max. Design temperature	120 °C	
Nominal Diameter (DN)	600	
Volume	500 L	
Test pressure	16.5 bar	
Testing according SQA plan:	Sample test:	
	100% test:	X

Tolerances, if not indicated, according to:					
ATLAS COPCO STANDARD CLASS					
Name	DIMENS. DRWG		LV500 OXYGEN		Confidentiality Class acc. to 1102 K
Material	See Drawing		See Drawing		Confidential
Treatment	See Drawing		See Drawing		INV
	Scale	1 : \$0	Family	A2	Compare
	Drawn by	INEEXTVIP	Blank nr.		Replaces
STATUS		Version Drwg	Blank wt	Kg	Finl wt. 130.000 kg
		Des checked.	Prod checked.	Approved.	Date 17/06/2021
1629240201-M1		1	1629240201-01		Designation
Parent 3D model		Ed . Version 3D	Pending		Sheet 1 / 1



Drawing owner

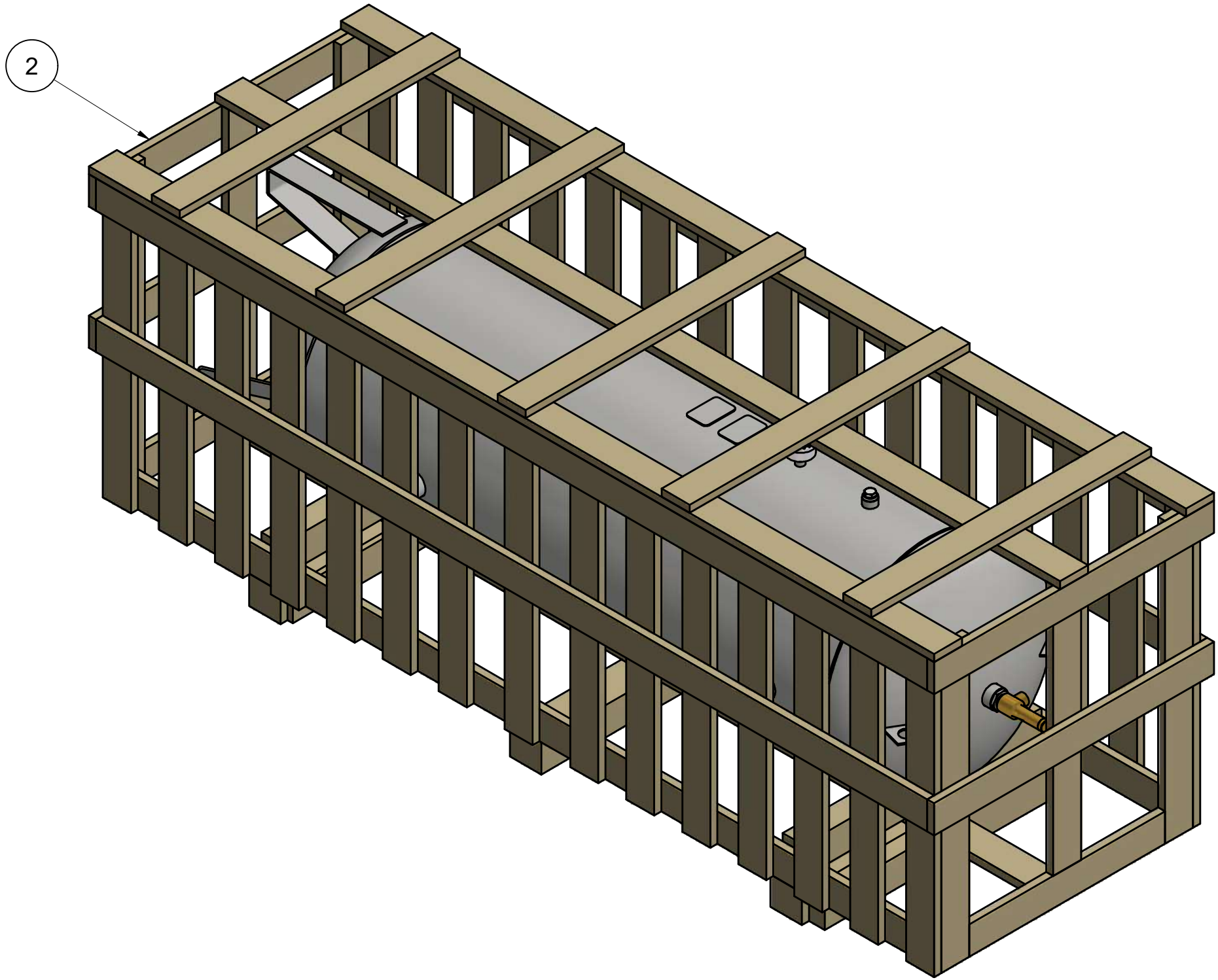
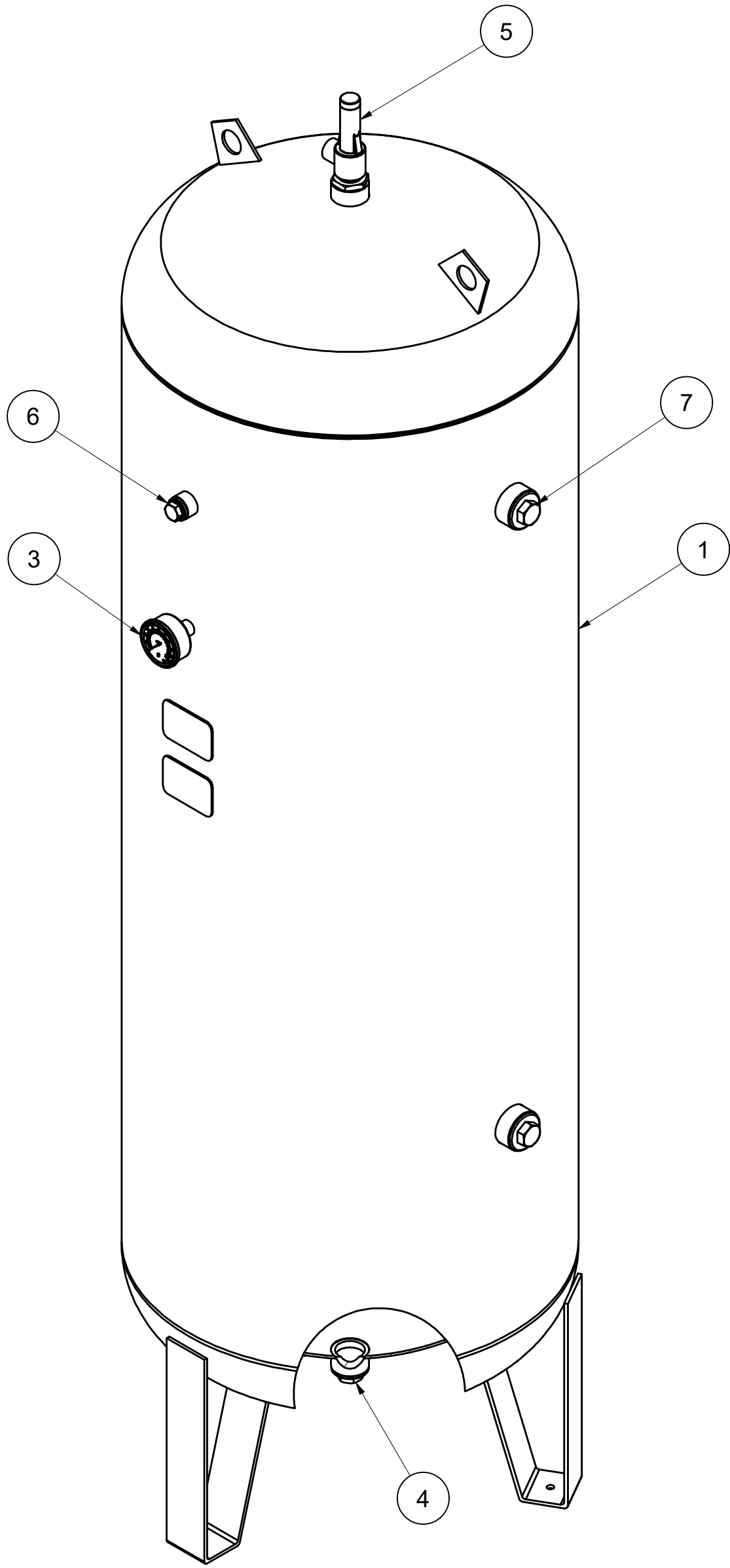
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1				
Ed	Position	Modified from	Date	Intr./Appd.



- Notes:-
- Suited for oxygen use according to specification 9828 5303 00.
  - Shipping weight : 169 kg.
  - Metal plugs to seal vessel from contamination during transport.

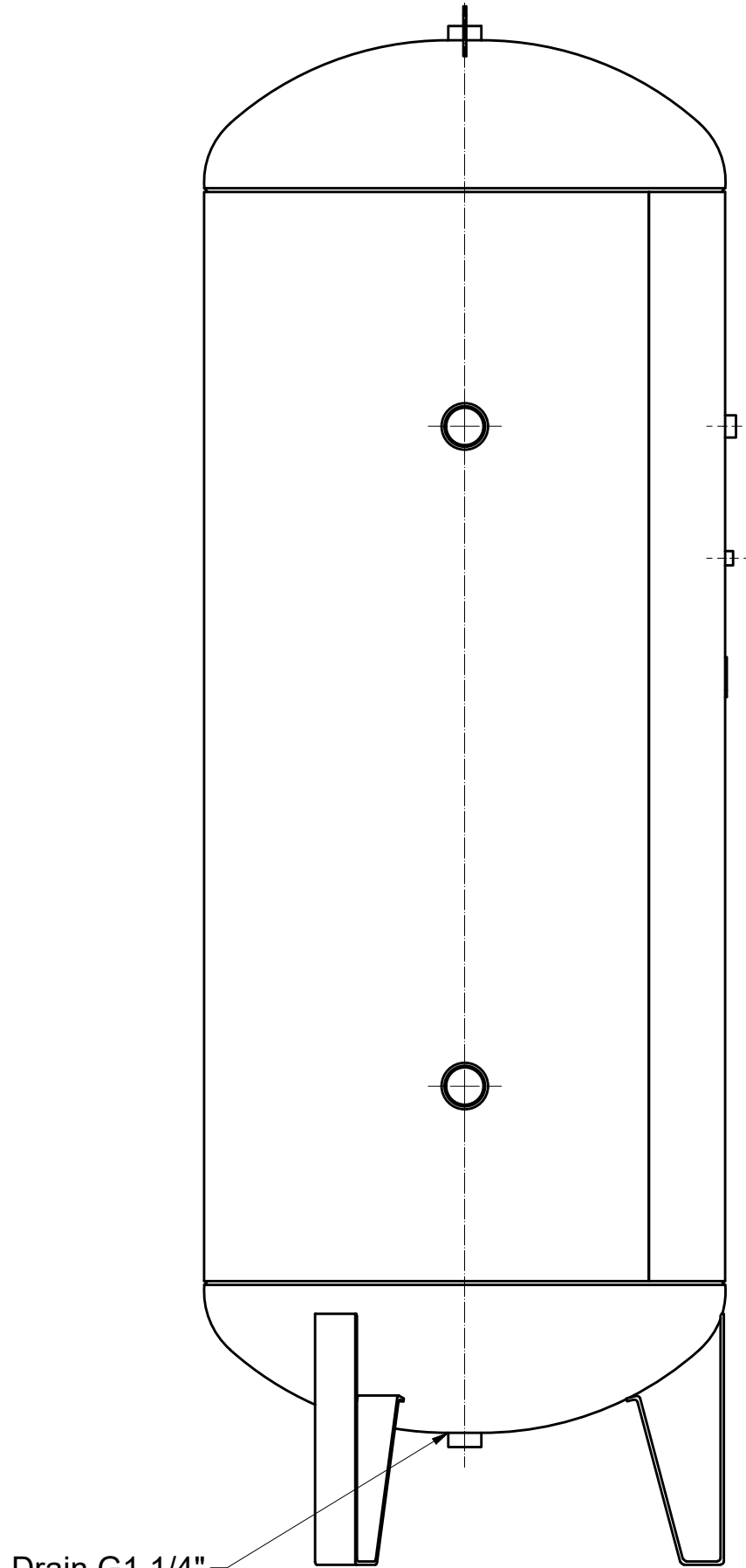
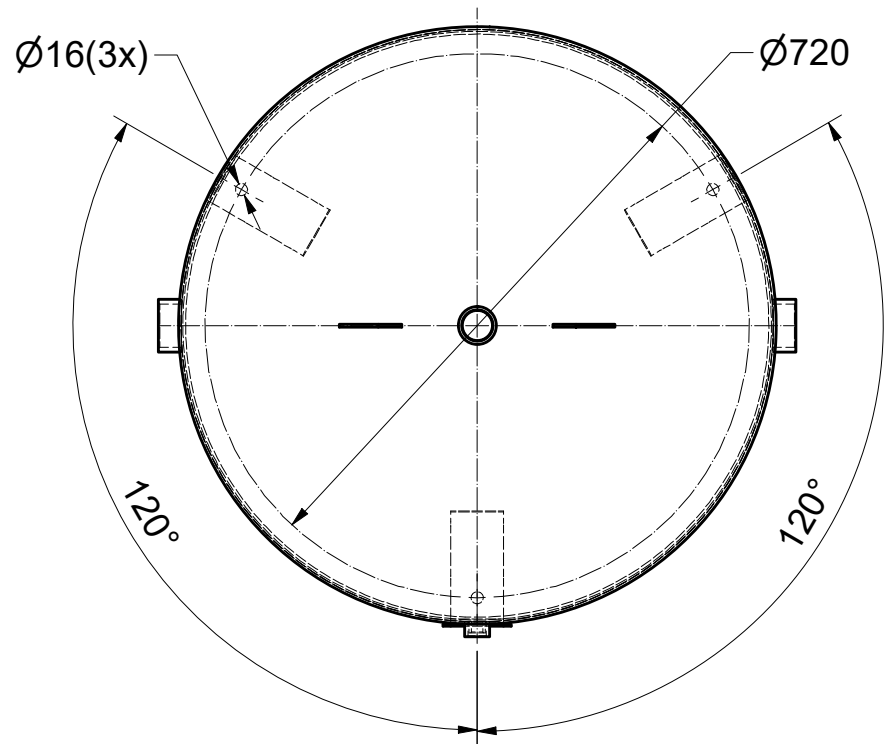
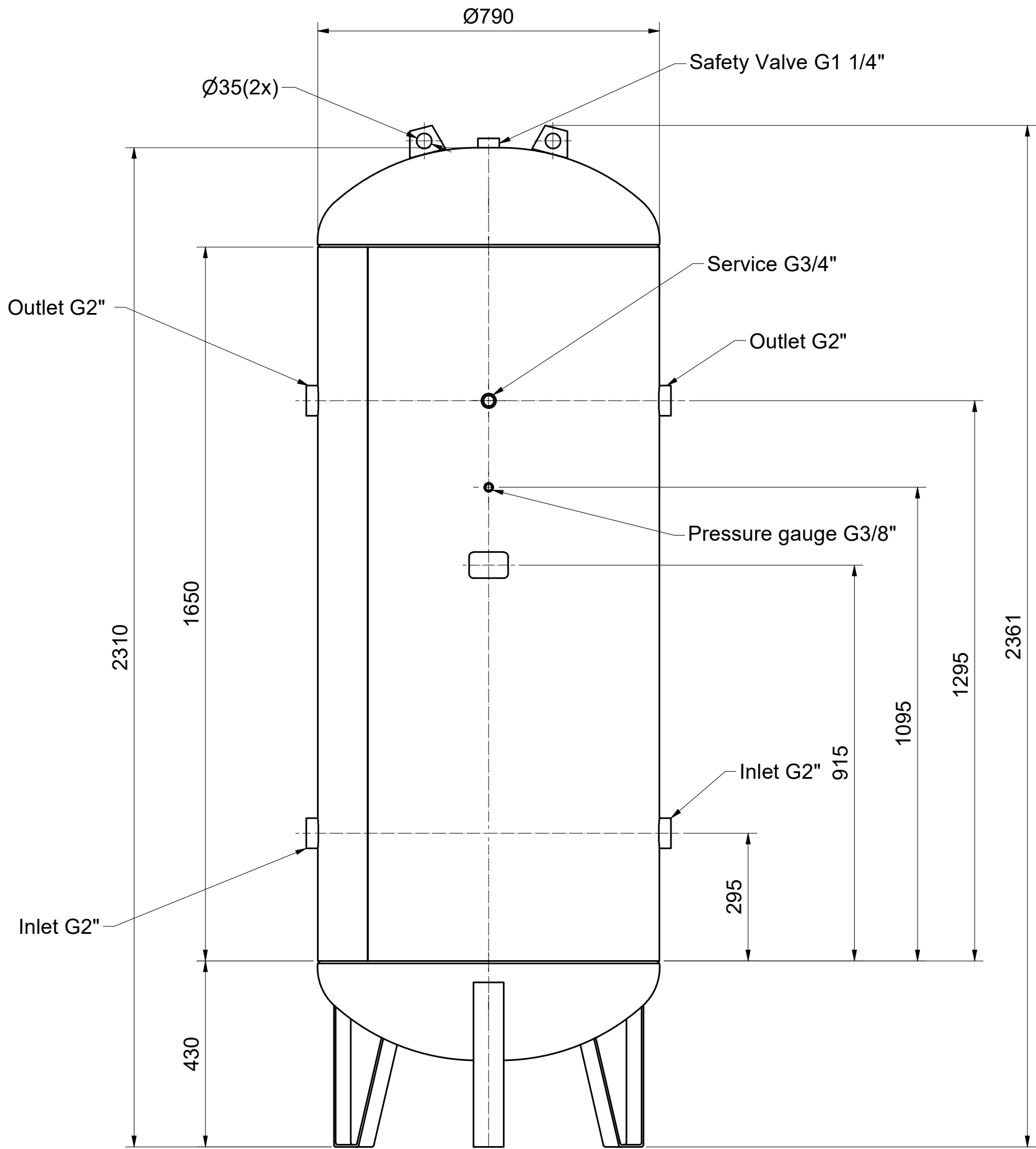
Parts List						
Pos	Qty	Partnumber	R/S	Name	Material	Description
1	1	1629240201	R	VESSEL AIR	See Drawing	LV500 OXYGEN
2	1	1629240221	R	PACKAGING	See Drawing	LV270 OXYGEN
3	1	0872100132	S	GAUGE PRESS	See Standards	PRESSURE GAUGE
4	1	0686420900	S	PLUG	See Standards	
5	1	0832100273	S	SAFETY VALVE	See Standards	
6	1	0686371662	S	PLUG	SEE STANDARDS	
7	4	0686421000	S	PLUG	See Standards	
Tolerances, if not indicated, according to:						
ATLAS COPCO STANDARD CLASS						
Name VESSEL AIR LV500 OXYGEN ASSEMBLY					Confidentiality Class acc. to 1102 K	
Material See Drawing					Confidential	
Treatment Not Applicable					INV	
		Scale 1 : 5	Family		A2 Compare	Drawing owner API
		Drawn by INEEXTVIP	Blank nr.		Replaces	
STATUS		Version Drwg	Blank wt	Kg	Finl wt. 169.000 kg	Designation Sheet 1 / 1
Parent 3D model		Ed . Version 3D	Des checked.	Prod checked.	Approved.	Date 17/06/2021
Pending		1629240211-01				



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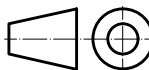
1				
Ed	Position	Modified from	Date	Intr./Appd.



- Notes:-
- Suited for oxygen use according to specification 9828 5303 00.
  - External treatment: painted RAL 7047.
  - Internal treatment: VITROFLEX coating.
  - Weight : 204 kg.

Designed, built, tested, certified and marked according European Directive: 2014/68/EU:		CAT IV
Medium	OXYGEN	
Design pressure	11,5 bar	
Min. Design temperature	-10 °C	
Max. Design temperature	120 °C	
Nominal Diameter (DN)	790	
Volume	1000 L	
Test pressure	16.5 bar	
Testing according SQA plan:	Sample test:	
	100% test:	X

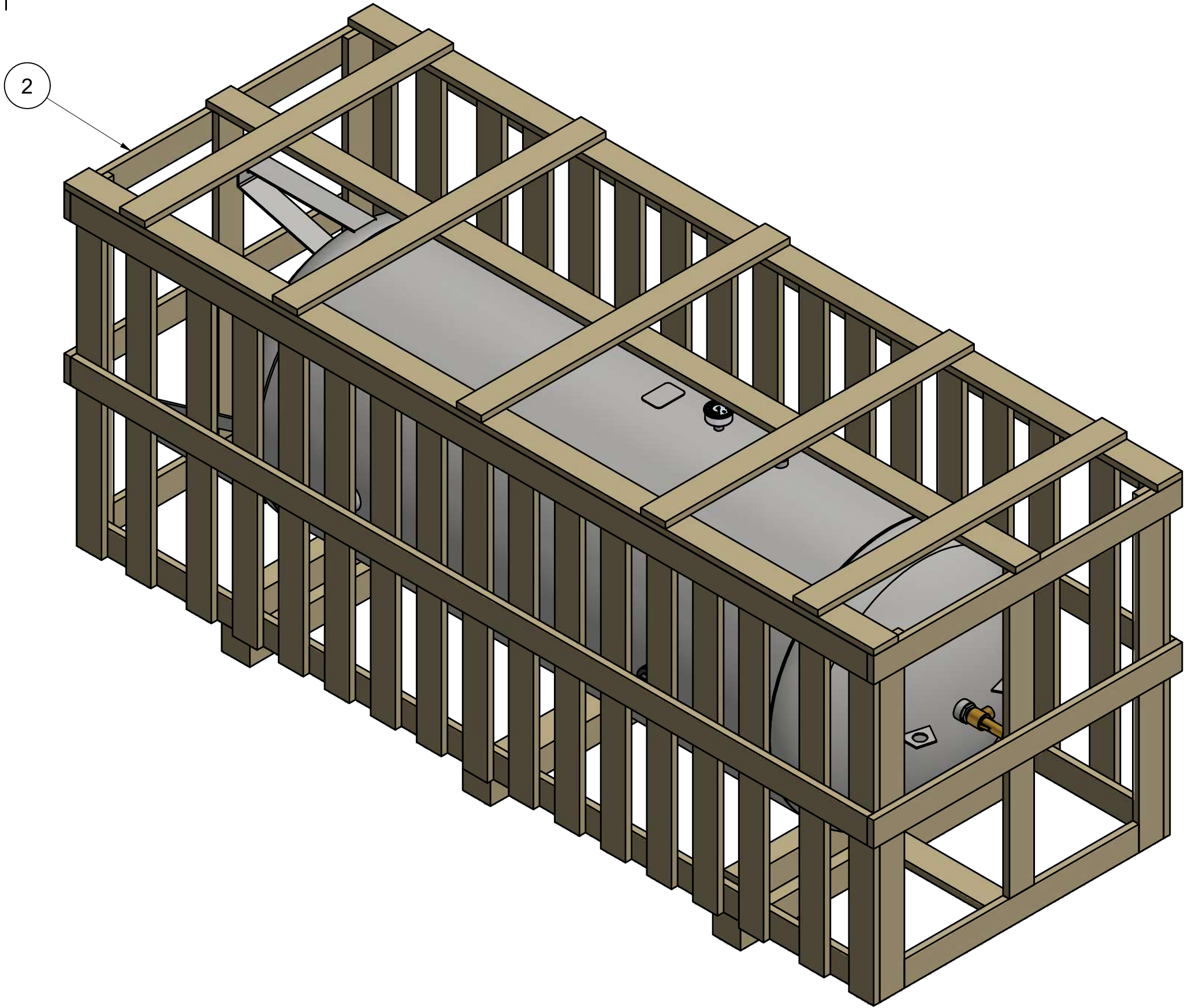
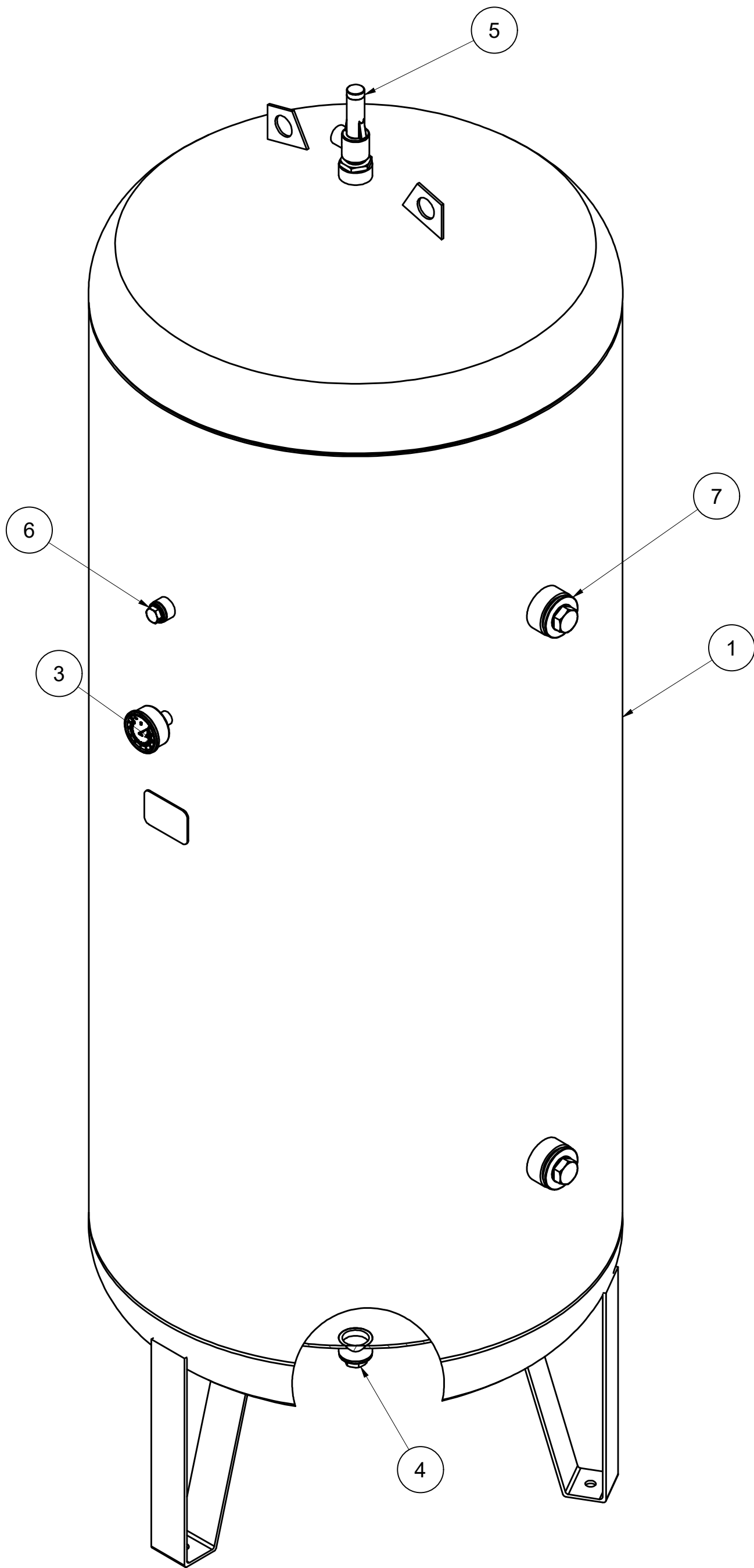
Tolerances, if not indicated, according to:					
ATLAS COPCO STANDARD CLASS					
Name	DIMENS. DRWG		LV1000 OXYGEN		Confidentiality Class acc. to 1102 K
Material	See Drawing				Confidential
Treatment	See Drawing				INV
	Scale	1 : 10	Family	A2	Compare
	Drawn by	INEEXTVIP	Blank nr.		Replaces
STATUS		Version Drwg	Blank wt	Kg	Finl wt. 160,623 kg
		Des checked.	Prod checked.	Approved.	Date 17/06/2021
Pending		Designation		Sheet 1 / 1	
1629240202-M1		1		1629240202-01	
Parent 3D model		Ed . Version 3D			



Drawing owner

API

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- Notes:-
- Suited for oxygen use according to specification 9828 5303 00.
  - Shipping weight : 255 kg.
  - Metal plugs to seal vessel from contamination during transport.

Parts List						
Pos	Qty	Partnumber	R/S	Name	Material	Description
1	1	1629240212	R	VESSEL AIR	See Drawing	LV1000 OXYGEN
2	1	1629240222	R	PACKAGING	See Drawing	LV1000 OXYGEN
3	1	0872100132	S	GAUGE PRESS	See Standards	PRESSURE GAUGE
4	1	0686420900	S	PLUG	See Standards	
5	1	0832100273	S	SAFETY VALVE	See Standards	
6	1	0686371662	S	PLUG	See Standards	
7	4	0686371673	S	PLUG	See Standards	
Tolerances, if not indicated, according to:						
ATLAS COPCO STANDARD CLASS						
Name VESSEL AIR LV1000 OXYGEN ASSEMBLY					Confidentiality Class acc. to 1102 K	
Material See Drawing					Confidential	
Treatment Not Applicable					INV	
Scale 1 : 5				Family	A2 Compare	Drawing owner
Drawn by INEEXTVIP				Blank nr.	Replaces	
Version Drwg		Blank wt	Kg	Finl wt.	255.000 kg	Designation
Des checked.		Prod checked.	Approved.	Date	17/06/2021	Sheet 1 / 1
Pending						

1629240212-M1

1

Parent 3D model

Ed . Version 3D

1629240212-01

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