

WATER TREATMENT PLANTS & SYSTEMS - 2011.2017



protecno
WATER TREATMENT PLANTS & SYSTEMS

ISO 9001

SOA 2016-2021



“**professionalità e tecnologia**
in costante sviluppo”

“*professional technology
in constant development*”

“*professionnalisme et technologie
en constant développement*”

“*profesionalidad y tecnología
en constante desarrollo*”

 **Protecno nasce nel 1974 ad opera di Lorenzo Belbusti** e si è da sempre occupata di trattamento acque: all'inizio come Agenzia, poi come Distributore di apparecchiature e prodotti, infine, dopo alcuni anni, con l'entrata in Società del fratello **Andrea**, come costruttore di impianti di trattamento acque, crescendo negli anni, fino a diventare una delle più importanti Aziende Italiane del settore.

Professionalità e tecnologia: queste semplici parole riassumono la nostra strategia di gestione.

Grazie alla rigorosa selezione di tecnologie specializzate unita a un'ampia esperienza e personale altamente qualificato, siamo il **partner ideale** per la progettazione e la costruzione di impianti volti al miglior **trattamento di acque** primarie e residue, attraverso sistemi ad osmosi inversa e unità fisico-chimiche e biologiche. Siamo presenti su tutto il territorio italiano e abbiamo agenzie e succursali in Europa, America, Asia e Africa.

 **Protecno was established in 1974 by Lorenzo Belbusti** and it has always dealt with water treatment: at the beginning as a Sales Agency then as a Supplier of equipments, products and instruments for water treatment. After a few years, **Andrea**, Lorenzo's brother, joined the company and Protecno has expanded to include the building of plants for the treatment of primary and process waters and has become one of the most important Italian companies in the field.

Professional Technology: these simple words sum up our management strategy.

An accurate selection of specialized technologies, ample experience and qualified staff make us the **ideal partner** for the design and construction of plants and for the provision of **water treatment** services.

We proudly design and manufacture plants and systems for primary and wastewater treatment, large reverse osmosis plants, as well as chemical-physical and biological units. We are present all over Italy and have agencies and branches in Europe, America, Africa and Asia.

 **Protecno nace en el año 1974 obra de Lorenzo Belbusti**, se ha ocupado desde siempre por el Tratamiento del agua: En un principio como una agencia, como Distribuidor de equipamientos y productos, posteriormente después de algunos años, con la entrada a la sociedad del hermano **Andrea**, como constructor de sistemas y plantas de tratamiento de agua, creciendo a través de los años hasta convertirse en una de las más importantes empresas italianas del sector.

Profesionalidad y tecnología: estas simples palabras resumen nuestra estrategia de gestión.

Una cuidadosa selección de tecnologías especializadas, amplia experiencia y el personal calificado nos convierte en el **socio ideal** para el diseño y construcción de las plantas y para la prestación de servicios de **tratamiento de agua**.

Estamos orgullosos de diseño y fabricación de instalaciones y sistemas para el tratamiento primario de aguas residuales y, grandes plantas de ósmosis inversa, así como unidades físico-químicas y biológicas. Estamos presentes en todo el territorio nacional y tenemos agencias y sucursales en Europa, América, África y Asia.

 **Protecno a été fondée en 1974 par Lorenzo Belbusti** et elle est toujours opérationnelle dans le traitement des eaux : Au début elle a démarré comme une agence, ensuite en tant que distributeur de matériels et de produits, enfin, après quelques années, et avec l'entrée dans la société de son frère **Andrea**, en tant que constructeur de stations de traitement des eaux, de plus en plus au fil des années, jusqu'à devenir l'une des plus importantes entreprises italiennes dans ce secteur.

Professionnalisme et technologie: ces simples mots résument notre stratégie.

Une sélection rigoureuse des technologies spécialisées, une large expérience et un staff qualifié font de nous le **fournisseur idéal** pour la conception, la construction d'usines et pour le service dans le secteur du **traitement de l'eau**. Nous sommes qualifiés pour la conception et la fabrication des systèmes pour le traitement des eaux primaires et des eaux usées, de grandes installations d'osmose inverse, ainsi que des unités physico-chimiques et biologiques. Nous sommes présents sur tout le territoire Italien et nous disposons d'agences et succursales en Europe, en Amérique, en Afrique et en Asie.

MEDIA FILTRATION



ULTRAFILTRATION



REVERSE OSMOSIS



ION EXCHANGE



BIOLOGICAL



PHYSICAL-CHEMICAL



SPECIAL



AUTOMATION



INDEX

by TECHNOLOGY:

- ULTRAFILTRATION 7, 8, 9, 17, 18, 19, 23, 30, 36, 37, 39,
43, 45, 46, 47, 48, 50, 51, 54, 58, 59,
60, 61, 64, 67, 69.
- MEDIA FILTRATION 1, 3, 4, 6, 10, 11, 13, 14, 16, 20, 23, 24,
25, 26, 28, 33, 34, 38, 40, 41, 42, 49,
55, 56, 57, 59, 63, 69.
- REVERSE OSMOSIS 1, 4, 7, 8, 9, 11, 14, 16, 17, 18, 19, 21,
23, 24, 26, 31, 33, 34, 35, 36, 37, 38,
39, 40, 41, 42, 45, 46, 47, 48, 49, 50,
51, 52, 56, 58, 59, 61, 64, 65, 66, 67,
68, 69.
- ION EXCHANGE 4, 8, 9, 14, 23, 24, 27.
- BIOLOGICAL 5, 12, 22, 23, 24, 42, 44, 57, 59.
- PHYSICAL CHEMICAL 2, 3, 4, 6, 10, 13, 20, 25, 28, 29, 63, 66.
- ELECTRODEIONIZATION 11, 19, 34, 39, 45.
- SPECIAL 15, 32, 52, 53, 56.
- ADVANCED OXIDATION 46, 47, 48.
- PUMPING STATION 62.

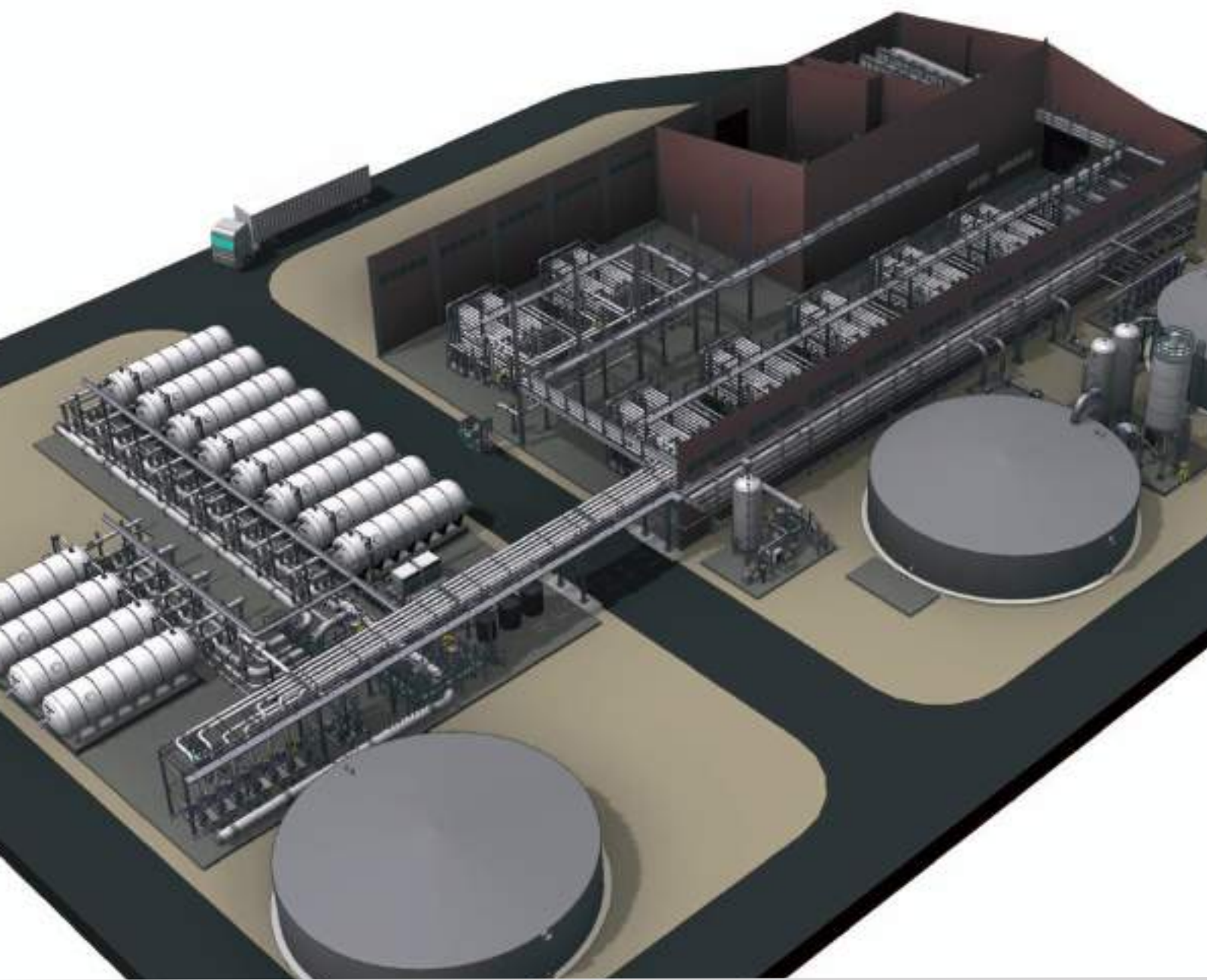
by WATER:

- SEA WATER 1, 14, 17, 24, 33, 35, 36, 37, 38, 39, 40,
41, 42, 45, 49, 58, 61, 67.
- RIVER WATER 6, 8, 9, 10, 20, 25, 28, 43, 54.
- BRACKISH WATER 50, 61, 63, 69.
- WELL WATER 11, 16, 19, 26, 31, 32, 34, 51, 56, 57, 64, 65, 68.
- LANDFILL LEACHATE 7.
- DAM WATER 23, 30, 62.
- PROCESS WATER 4, 53.
- WASTE WATER 2, 3, 4, 5, 12, 13, 18, 15, 21, 22, 27, 29,
42, 44, 46, 47, 48, 52, 55, 59, 66.
- GROUND WATER 60.

by PROCESS:

- DESALINATION 1, 16, 17, 26, 33, 35, 36, 37, 38, 39, 40,
41, 42, 45, 49, 52, 58, 61, 67, 68.
- DEMINERALIZATION 4, 8, 9, 11, 14, 19, 23, 24, 27, 34, 50, 69.
- PURIFICATION 2, 3, 4, 5, 6, 7, 10, 12, 13, 20, 22, 25, 28,
29, 30, 31, 32, 42, 43, 44, 51, 53, 54, 55,
56, 57, 60, 63, 64, 65, 66.
- REUSE 18, 21, 46, 47, 48, 59, 66.

MEDIA FILTRATION & REVERSE OSMOSIS



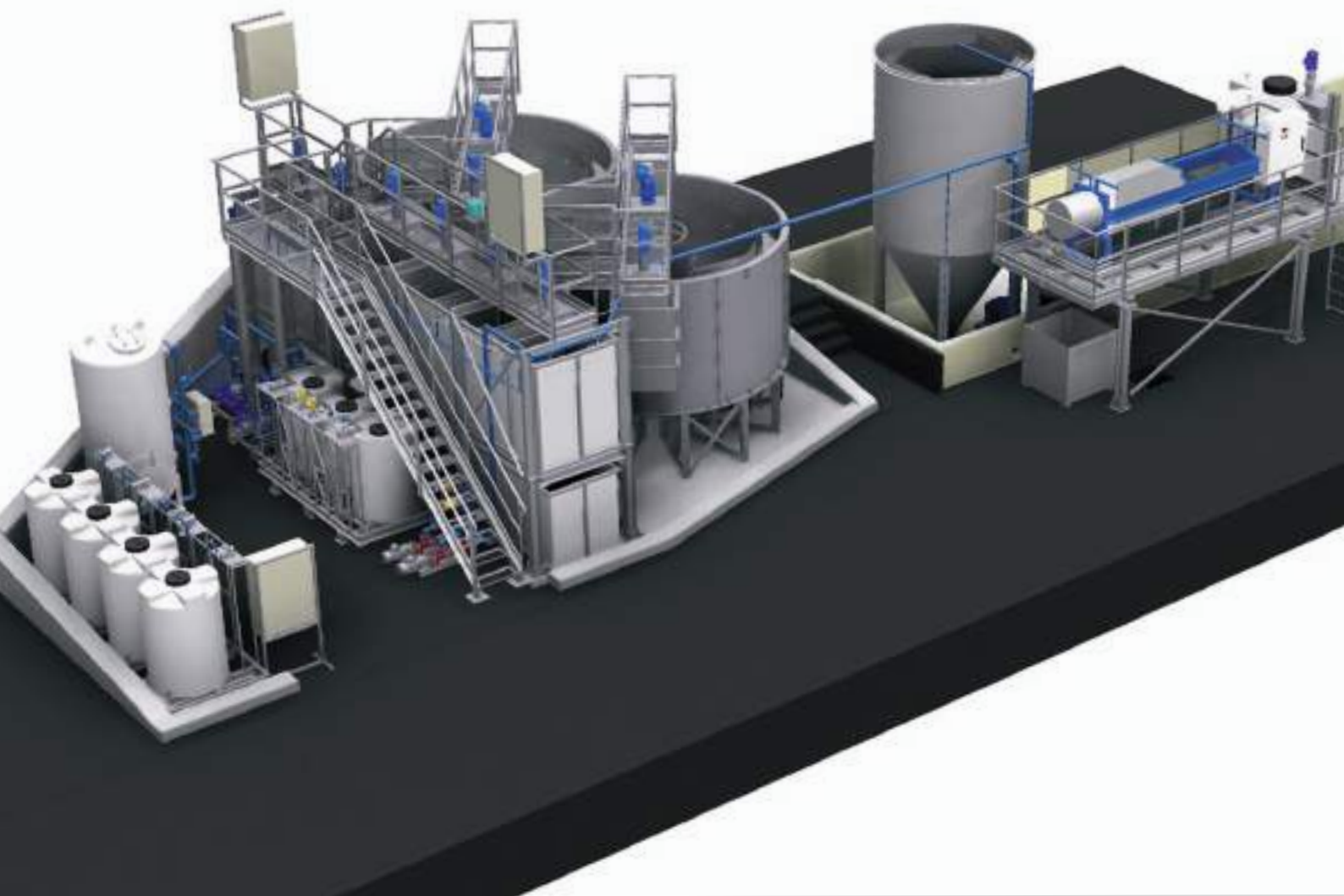
SEA WATER DESALINATION - Republic of Cyprus, 2011

tech specs:

MULTI-MEDIA FILTRATION (V=20 m/h)	7,200 m³/h
CARTRIDGE MICRO-FILTRATION	3,750 m³/h
1 st PASS REVERSE OSMOSIS	1,670 m³/h
2 nd PASS REVERSE OSMOSIS	340 m³/h
RE-MINERALIZATION	1,670 m³/h



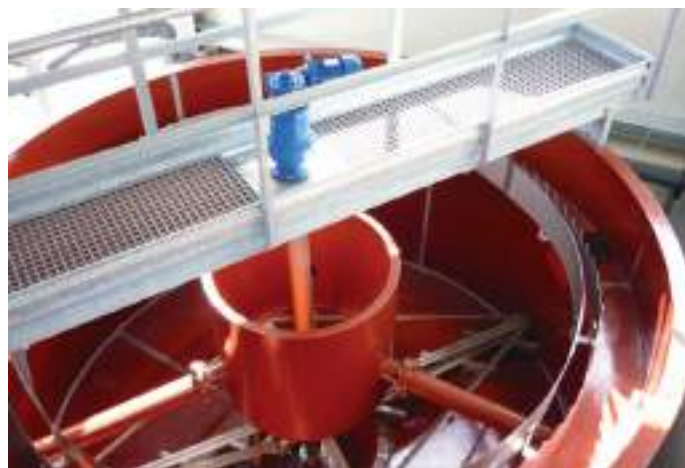
PHYSICAL-CHEMICAL



ELECTRONIC INDUSTRY WASTE WATER PURIFICATION - Italy, 2011

tech specs:

COAGULATION - FLOCCULATION	15 m ³ /h
1 st SETTLEMENT	15 m ³ /h
2 nd SETTLEMENT	15 m ³ /h
MEDIA FILTRATION	15 m ³ /h



PHYSICAL-CHEMICAL & MEDIA FILTRATION



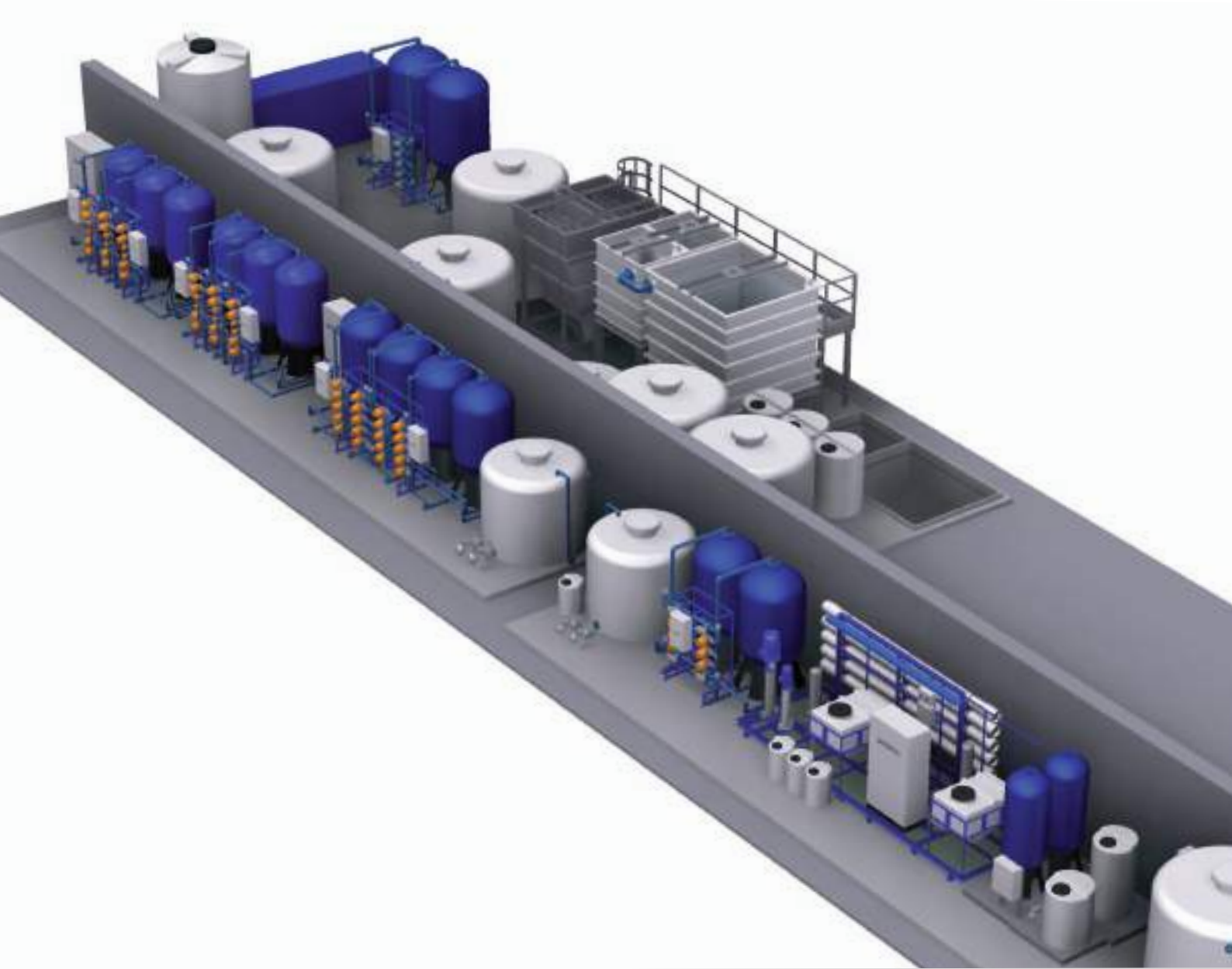
OIL REFINERY WASTE WATER PURIFICATION - Italy, 2011

tech specs:

COAGULATION - FLOCCULATION	325 m ³ /h
SETTLEMENT	325 m ³ /h
ACTIVATED CARBON FILTRATION	325 m ³ /h



PHYSICAL-CHEMICAL, MEDIA FILTRATION, REVERSE OSMOSIS & ION EXCHANGE



Middle East, 2011

BRACKISH WATER DEMINERALIZATION

tech specs:

MEDIA FILTRATION	20 m³/h
CARTRIDGE MICRO-FILTRATION	20 m³/h
1 st PASS REVERSE OSMOSIS	15 m³/h
2 nd PASS REVERSE OSMOSIS	4 m³/h

WASTE WATER PURIFICATION

tech specs:

EQUALIZATION	20 m³/h
COAGULATION - FLOCCULATION	10 m³/h
SETTLEMENT	10 m³/h
MEDIA FILTRATION	10 m³/h

PROCESS WATER DEMINERALIZATION AND RECYCLE

tech specs:

MEDIA FILTRATION	30 m³/h
ION EXCHANGE	30 m³/h



BIOLOGICAL



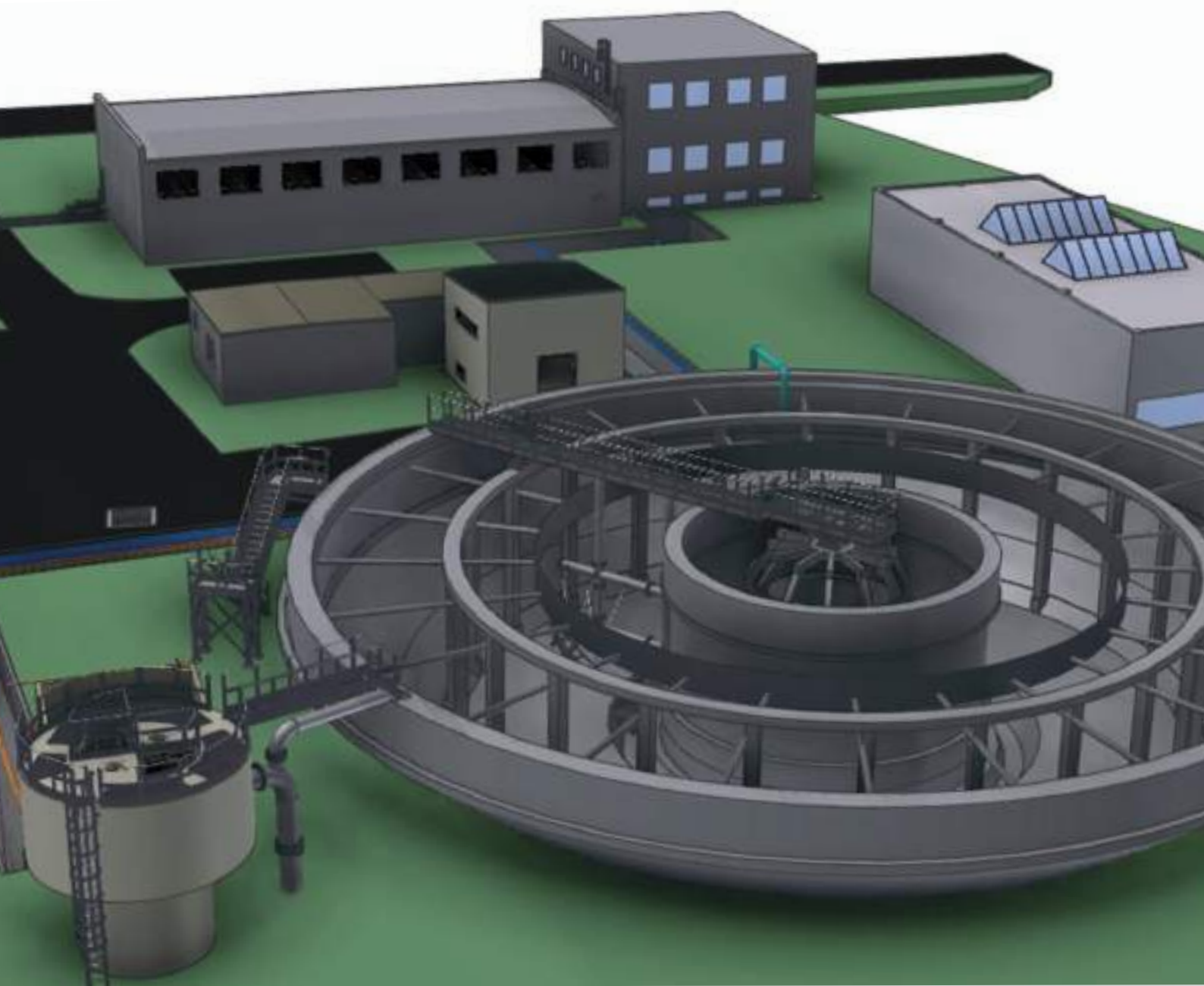
MUNICIPAL WASTE WATER PURIFICATION - North Africa, 2011

tech specs:

SCREENING	35,000 PE
GRIT AND GREASES REMOVAL	
NITRIFICATION	
DENITRIFICATION	
SETTLEMENT	
SLUDGE TICKENING	



PHYSICAL-CHEMICAL & MEDIA FILTRATION



RIVER WATER PURIFICATION - East Europe, 2011

tech specs:

COAGULATION - FLOCCULATION	970 m ³ /h
CLARIFICATION	950 m ³ /h
SAND FILTRATION	920 m ³ /h



ULTRAFILTRATION & REVERSE OSMOSIS



LANDFILL LEACHATE TREATMENT - Italy, 2011

tech specs:

ULTRAFILTRATION	2.6 m ³ /h
CARTRIDGE MICRO-FILTRATION	3 m ³ /h
1 st PASS REVERSE OSMOSIS	2.6 m ³ /h
2 nd PASS REVERSE OSMOSIS	2 m ³ /h



ULTRAFILTRATION, REVERSE OSMOSIS & ION EXCHANGE



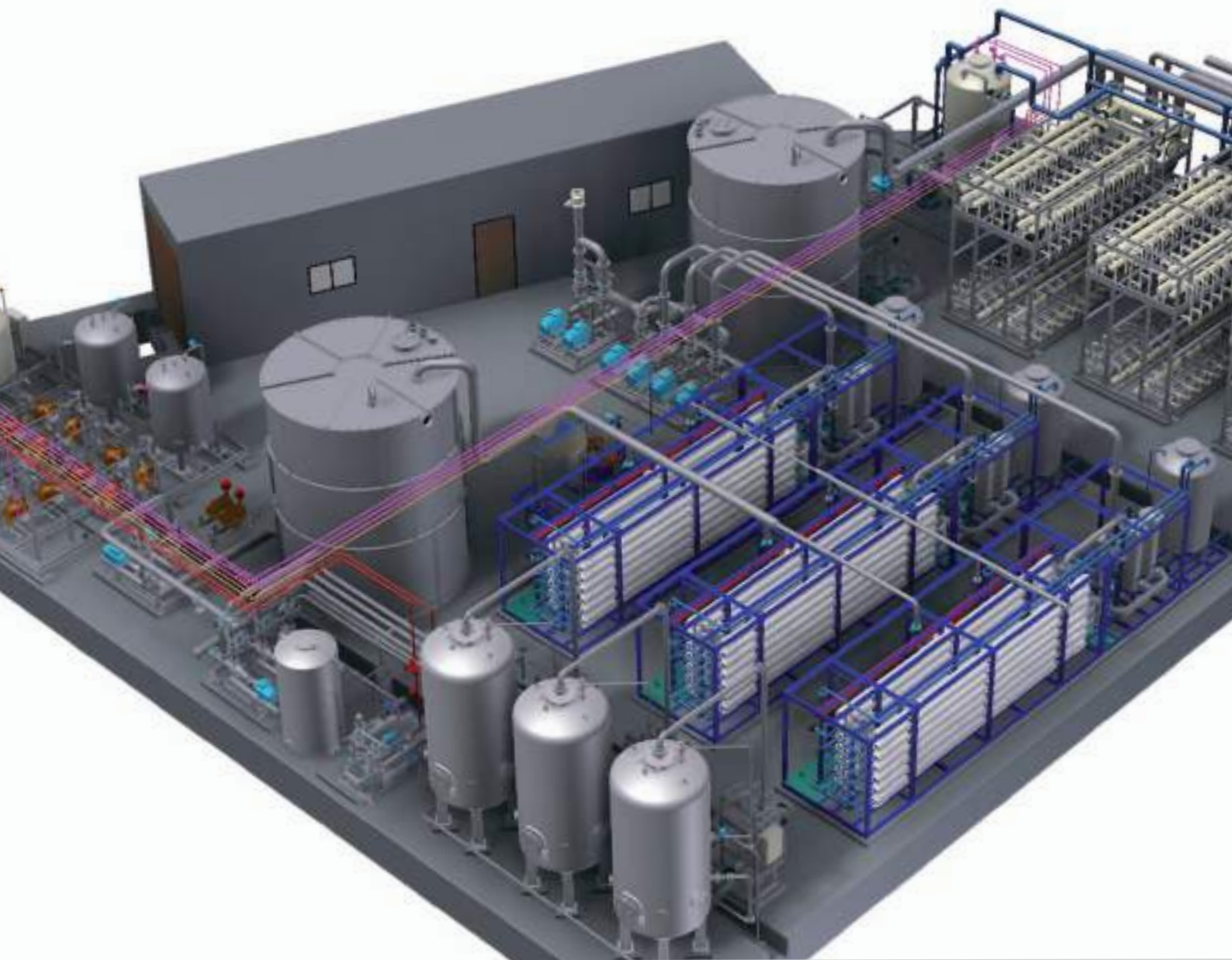
RIVER WATER DEMINERALIZATION - Middle East, 2011/2012

tech specs:

PRE-FILTRATION	1,200 m ³ /h
ULTRAFILTRATION (60÷120 l/h)	888÷1,776 m ³ /h
CARTRIDGE MICRO-FILTRATION	792 m ³ /h
1 st PASS REVERSE OSMOSIS	531 m ³ /h
2 nd PASS REVERSE OSMOSIS	471 m ³ /h
POLISHING (30÷60 BV)	450÷900 m ³ /h



ULTRAFILTRATION, REVERSE OSMOSIS & ION EXCHANGE



RIVER WATER DEMINERALIZATION - Middle East, 2011/2012

tech specs:

PRE-FILTRATION	900 m ³ /h
ULTRAFILTRATION (60÷120 l/h)	665÷1,330 m ³ /h
CARTRIDGE MICRO-FILTRATION	528 m ³ /h
1 st PASS REVERSE OSMOSIS	240 m ³ /h
POLISHING (30÷60 BV)	292÷585 m ³ /h



PHYSICAL-CHEMICAL & MEDIA FILTRATION



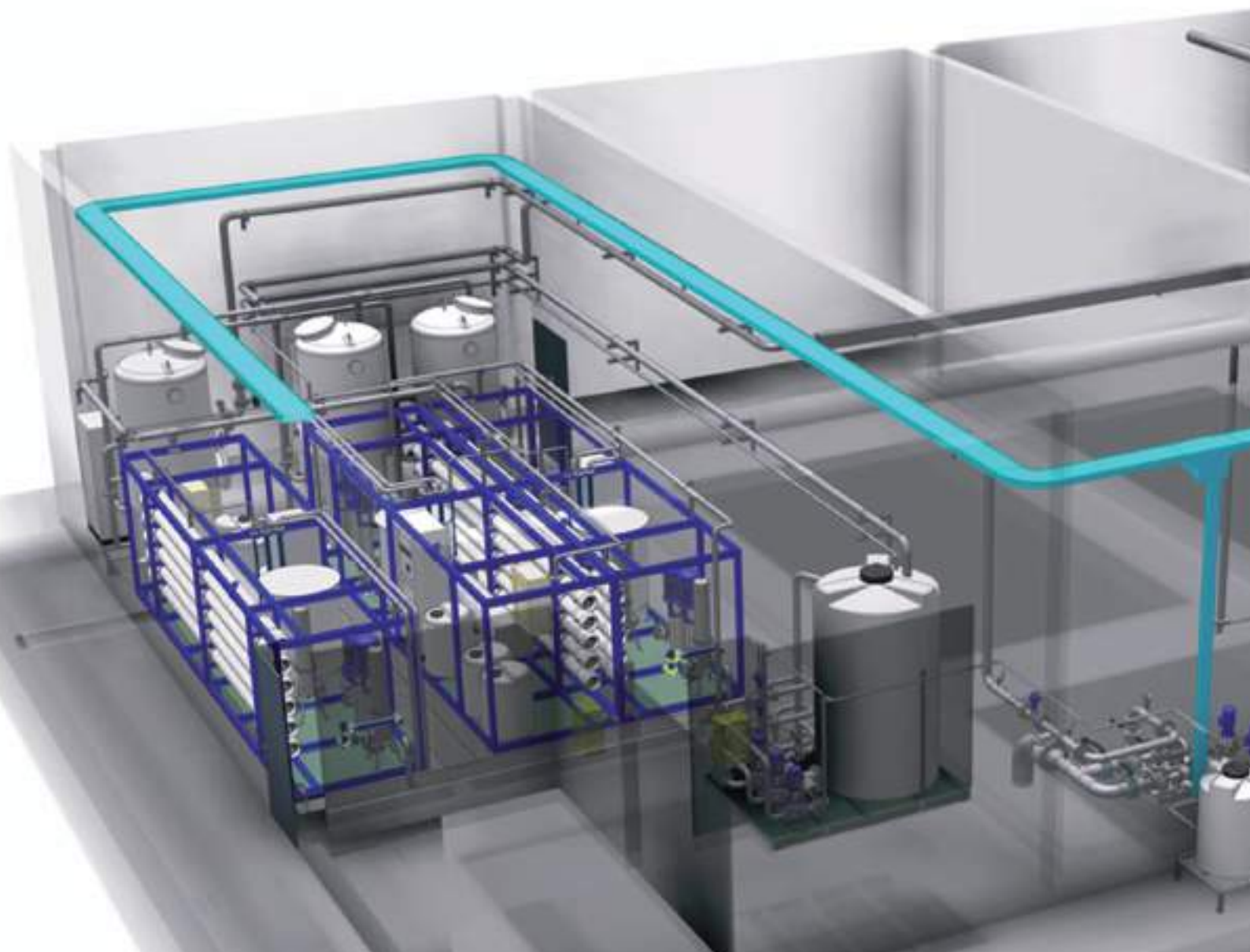
RIVER WATER PURIFICATION - Middle East, 2012

tech specs:

COAGULATION - FLOCCULATION	220 m ³ /h
CLARIFICATION	210 m ³ /h
MEDIA FILTRATION	200 m ³ /h



MEDIA FILTRATION, REVERSE OSMOSIS & ELECTRODEIONIZATION



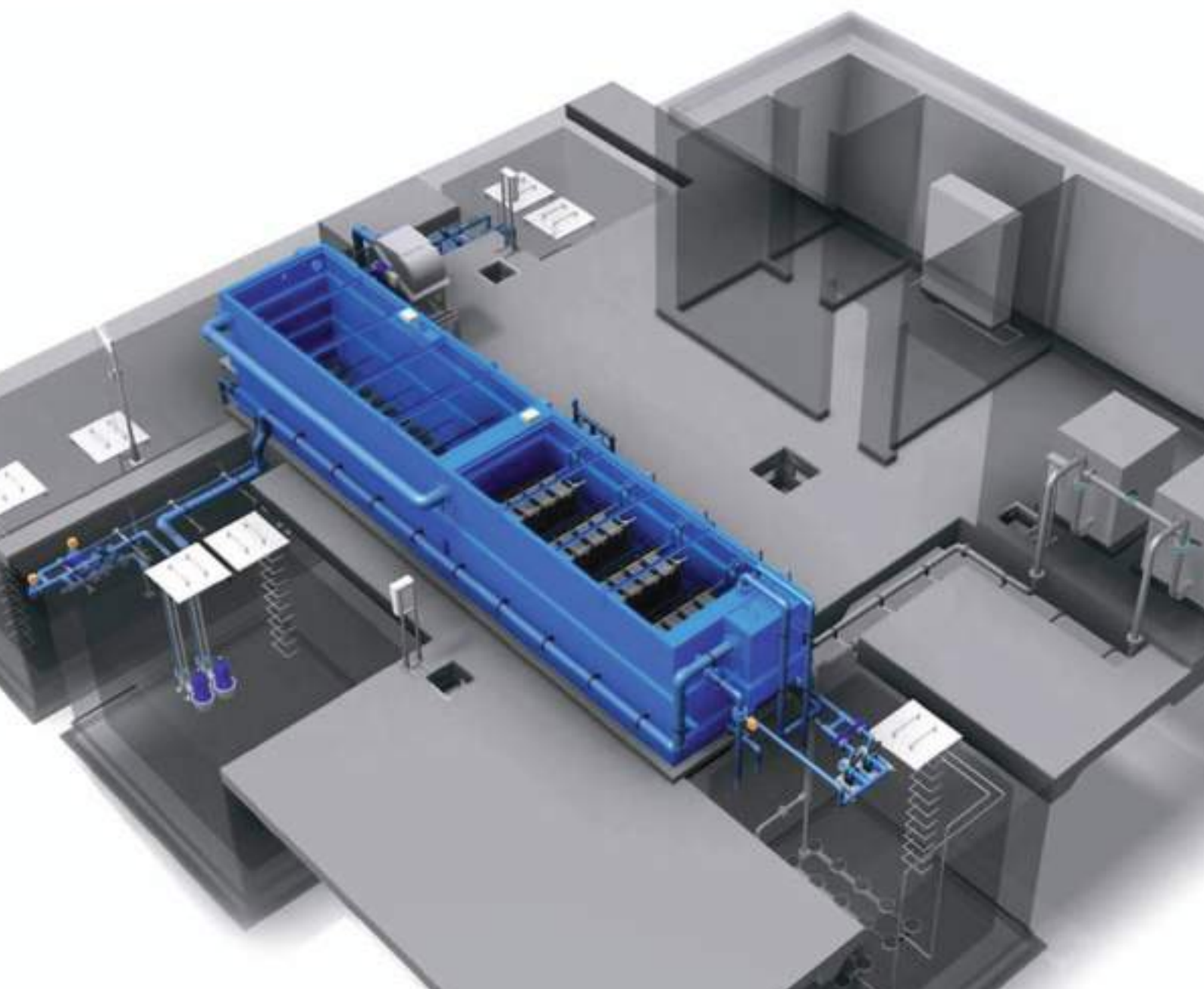
WELL WATER DEMINERALIZATION - Italy, 2012

tech specs:

MULTI-MEDIA FILTRATION	75 m ³ /h
CARTRIDGE MICRO-FILTRATION	75 m ³ /h
1 st PASS REVERSE OSMOSIS	56 m ³ /h
2 nd PASS REVERSE OSMOSIS	48 m ³ /h
ELECTRODEIONIZATION	45 m ³ /h
MEMBRANE OXYGEN SCAVENGING	2 m ³ /h



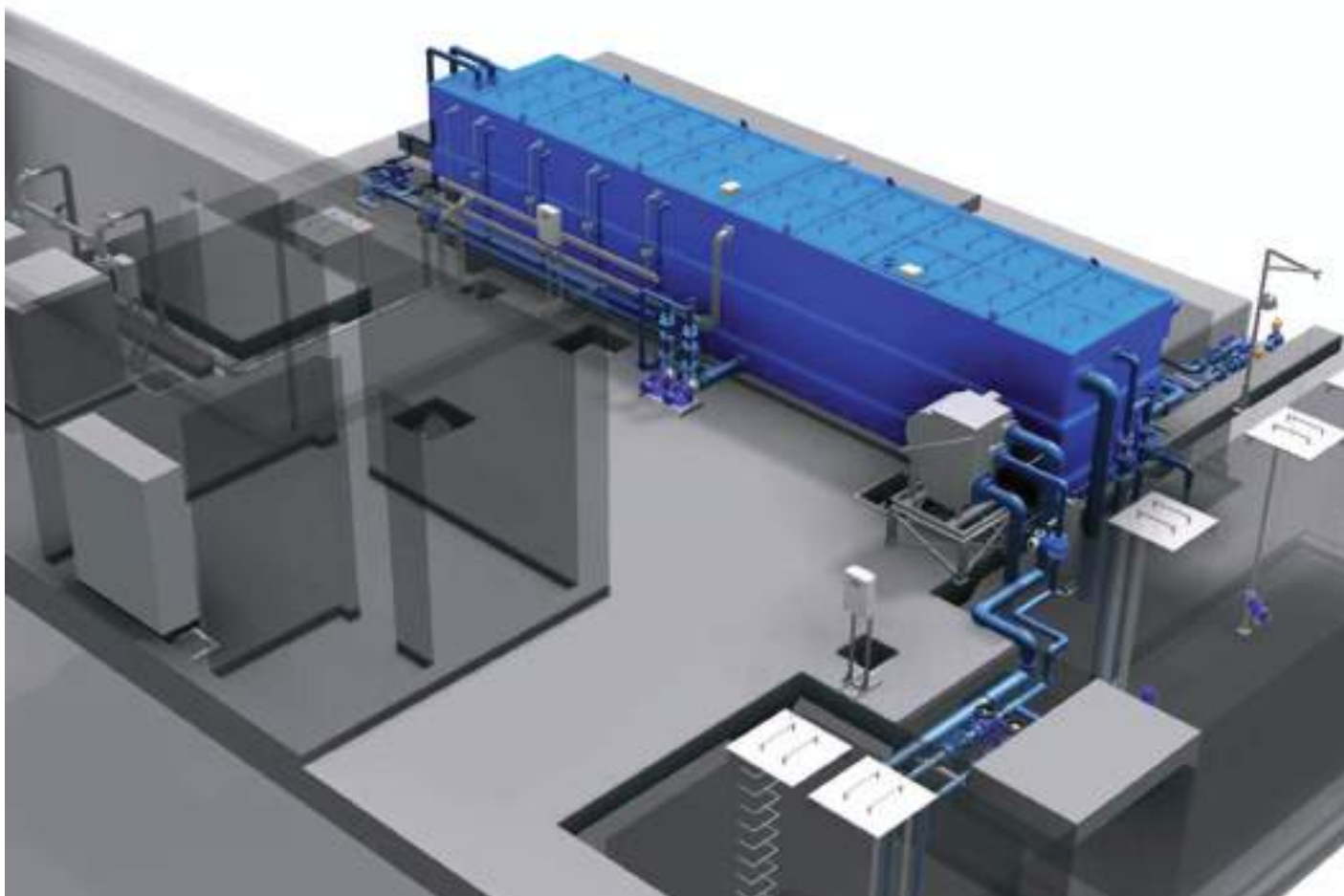
BIOLOGICAL



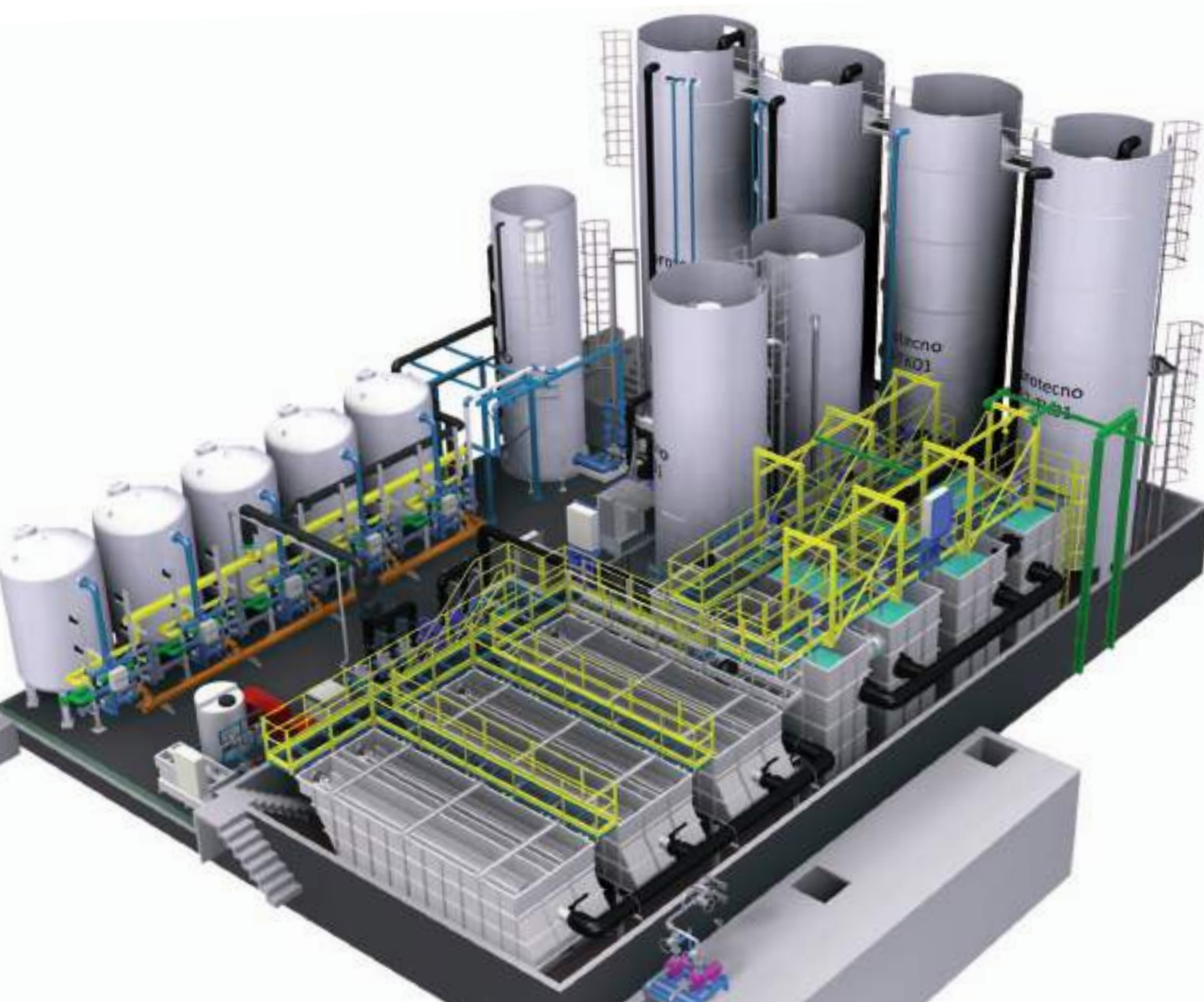
MUNICIPAL WASTE WATER PURIFICATION - Middle East, 2012

tech specs:

SCREENING	10 m ³ /h
GRIT AND GREASES REMOVAL	
NITRIFICATION	
MEMBRANE BIOLOGICAL REACTION	
DISINFECTION	



PHYSICAL-CHEMICAL & MEDIA FILTRATION



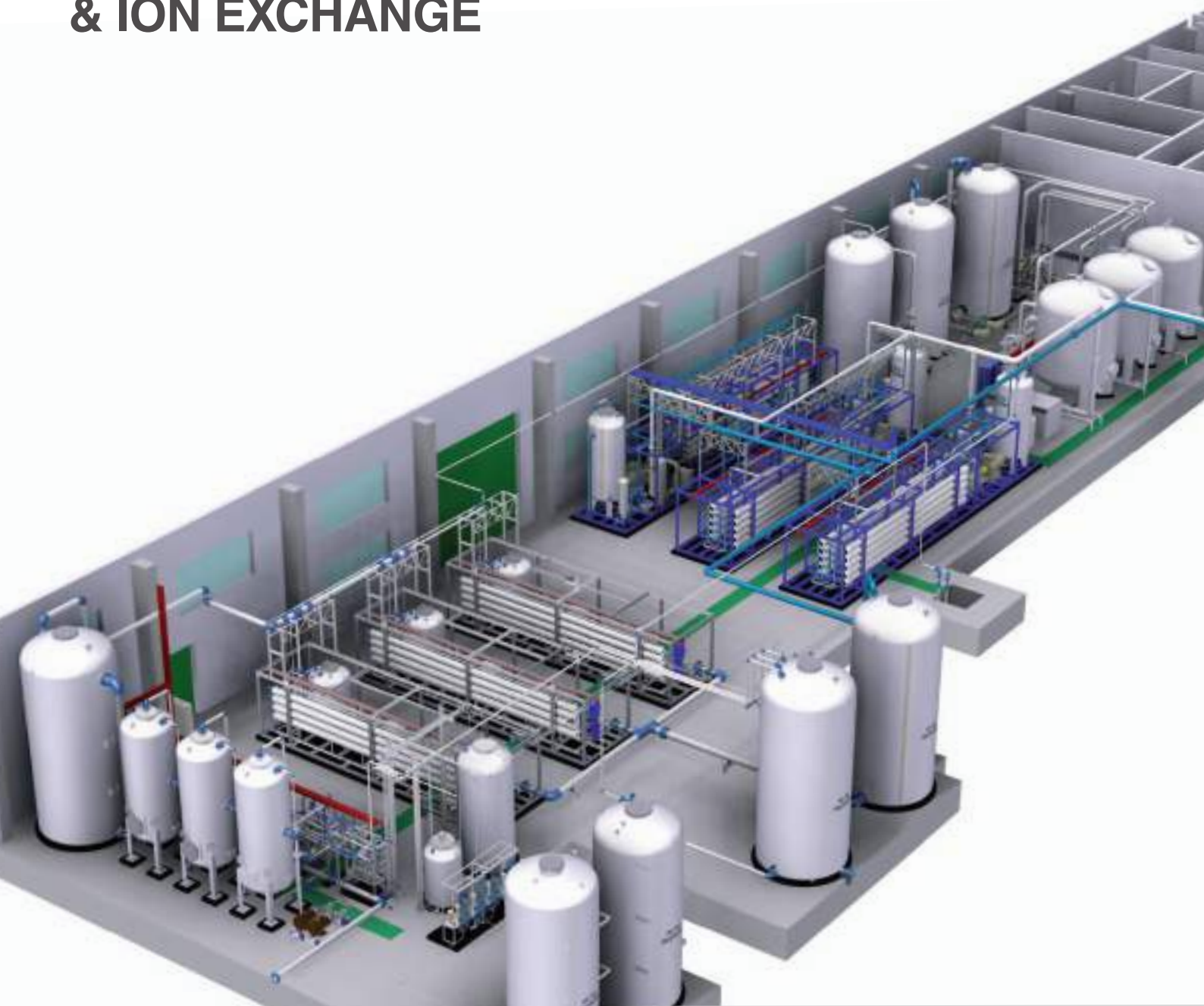
CHEMICAL INDUSTRY WASTE WATER PURIFICATION - Italy, 2012

tech specs:

EQUALIZATION	360 m ³ /h
CLARIFICATION	360 m ³ /h
SETTLEMENT	320 m ³ /h
FILTRATION	320 m ³ /h



MEDIA FILTRATION, REVERSE OSMOSIS & ION EXCHANGE



SEA WATER DEMINERALIZATION - Central America, 2012

tech specs:

MULTI-MEDIA FILTRATION (V=20 m/h)	420 m ³ /h
CARTRIDGE MICRO-FILTRATION	528 m ³ /h
1 st PASS REVERSE OSMOSIS	150 m ³ /h
2 nd PASS REVERSE OSMOSIS	135 m ³ /h
POLISHING (30÷60 BV)	180÷360 m ³ /h



SPECIAL FILTRATION & MEDIA FILTRATION



CONDENSATE STEAM OIL REMOVAL - Italy, 2012

tech specs:

OLEOPHILIC RESIN FILTRATION	180 m ³ /h
ACTIVATED CARBON FILTRATION	180 m ³ /h



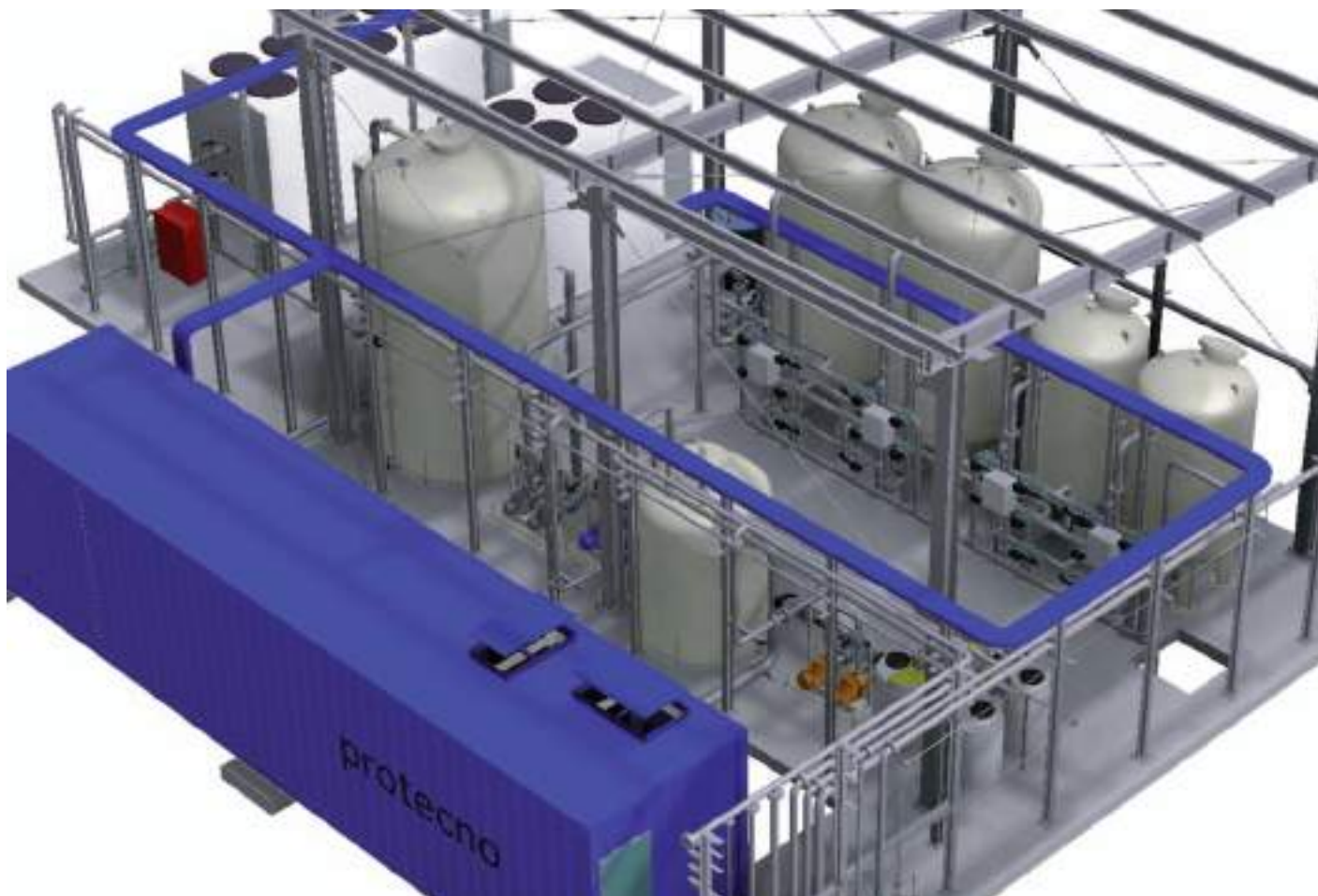
MEDIA FILTRATION & REVERSE OSMOSIS



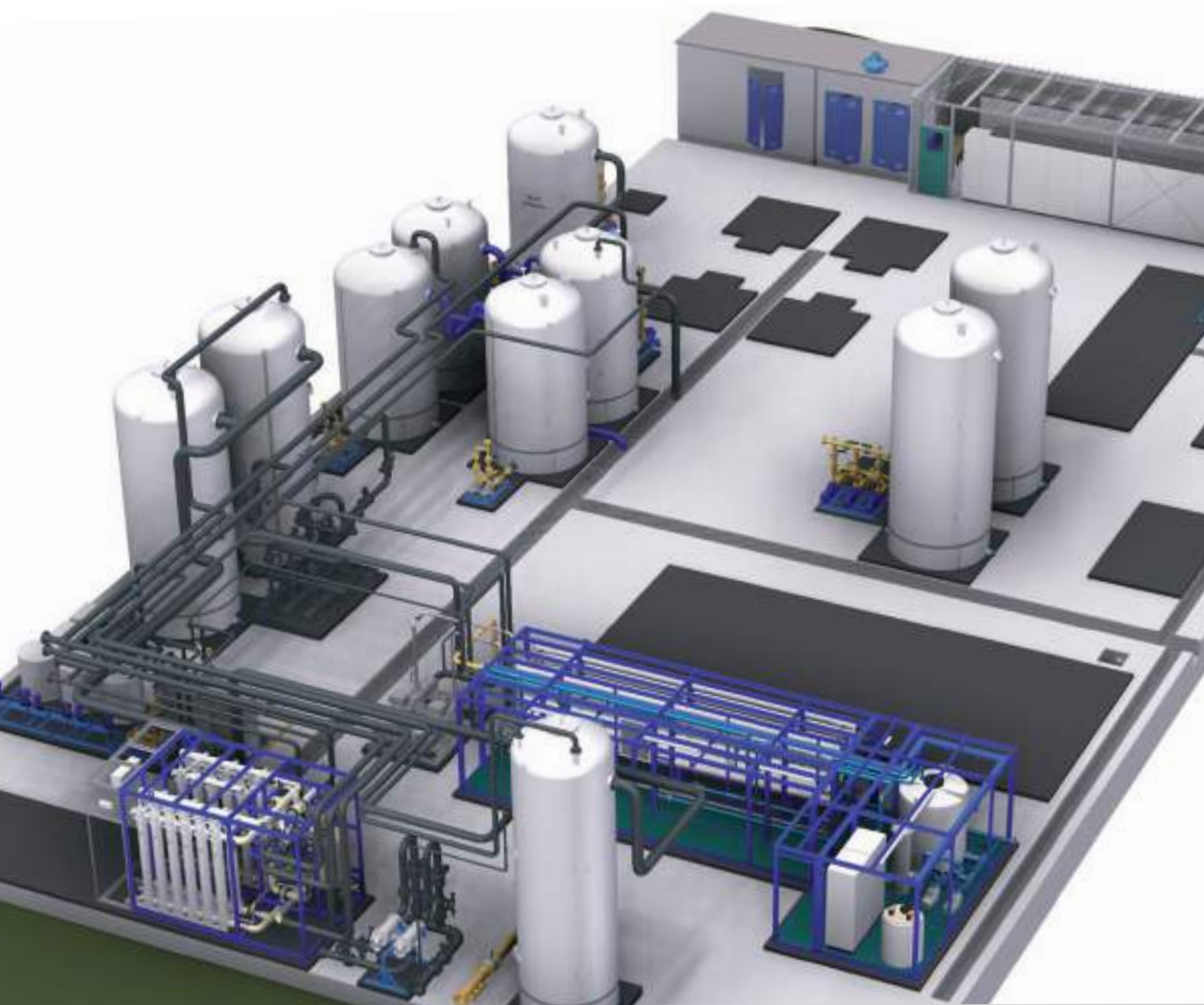
WELL WATER DESALINATION - Middle East, 2012

tech specs:

MEDIA FILTRATION (V=20 m/h)	120 m ³ /h
GAC FILTRATION (V=20 m/h)	80 m ³ /h
CARTRIDGE MICRO-FILTRATION	60 m ³ /h
REVERSE OSMOSIS	30 m ³ /h



ULTRAFILTRATION & REVERSE OSMOSIS



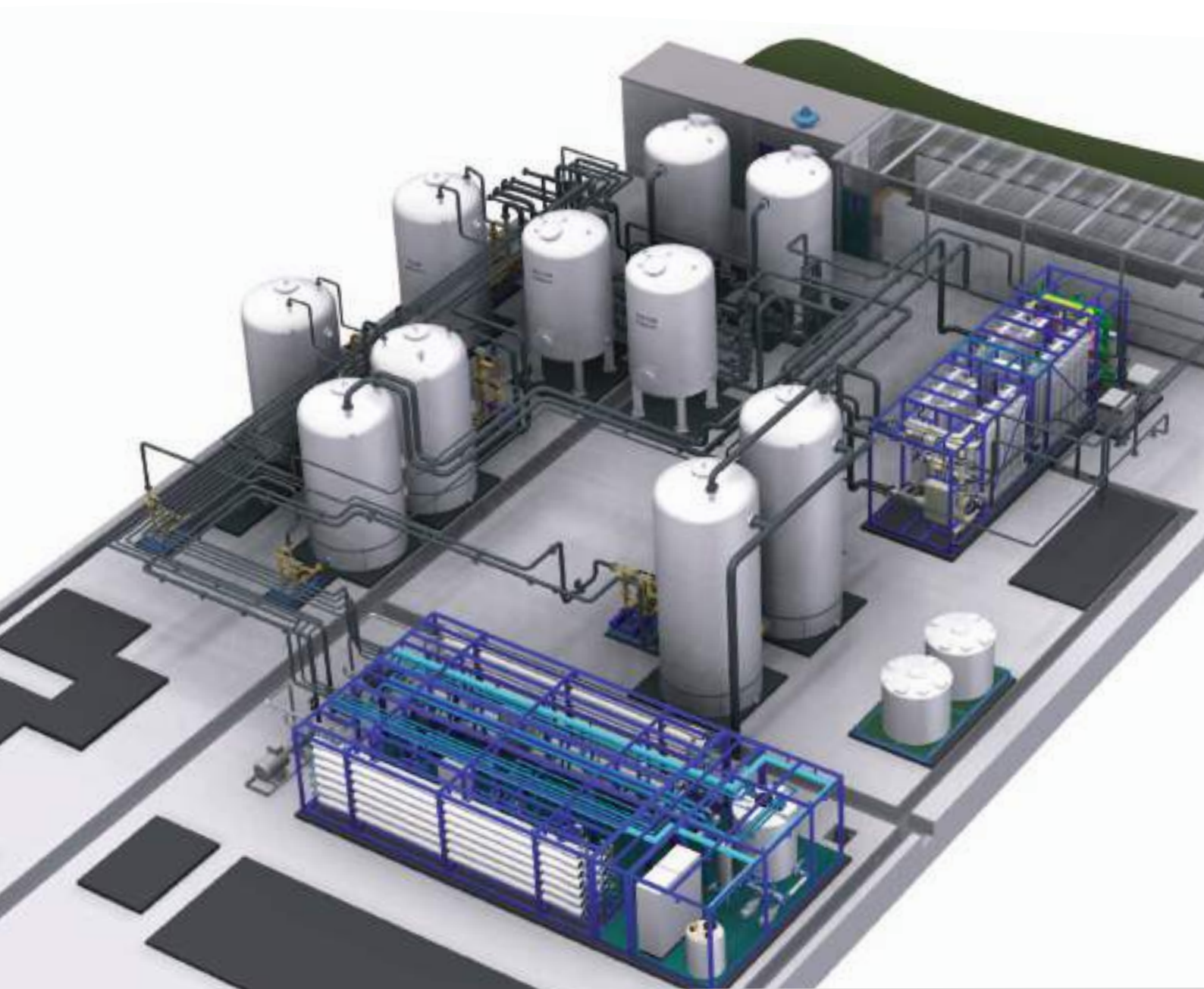
SEA WATER DESALINATION - Italy, 2012

tech specs:

PRE-FILTRATION	500 m ³ /h
ULTRAFILTRATION (60÷120 l/h)	106÷213 m ³ /h
CARTRIDGE MICRO-FILTRATION	176 m ³ /h
REVERSE OSMOSIS	50 m ³ /h



ULTRAFILTRATION & REVERSE OSMOSIS



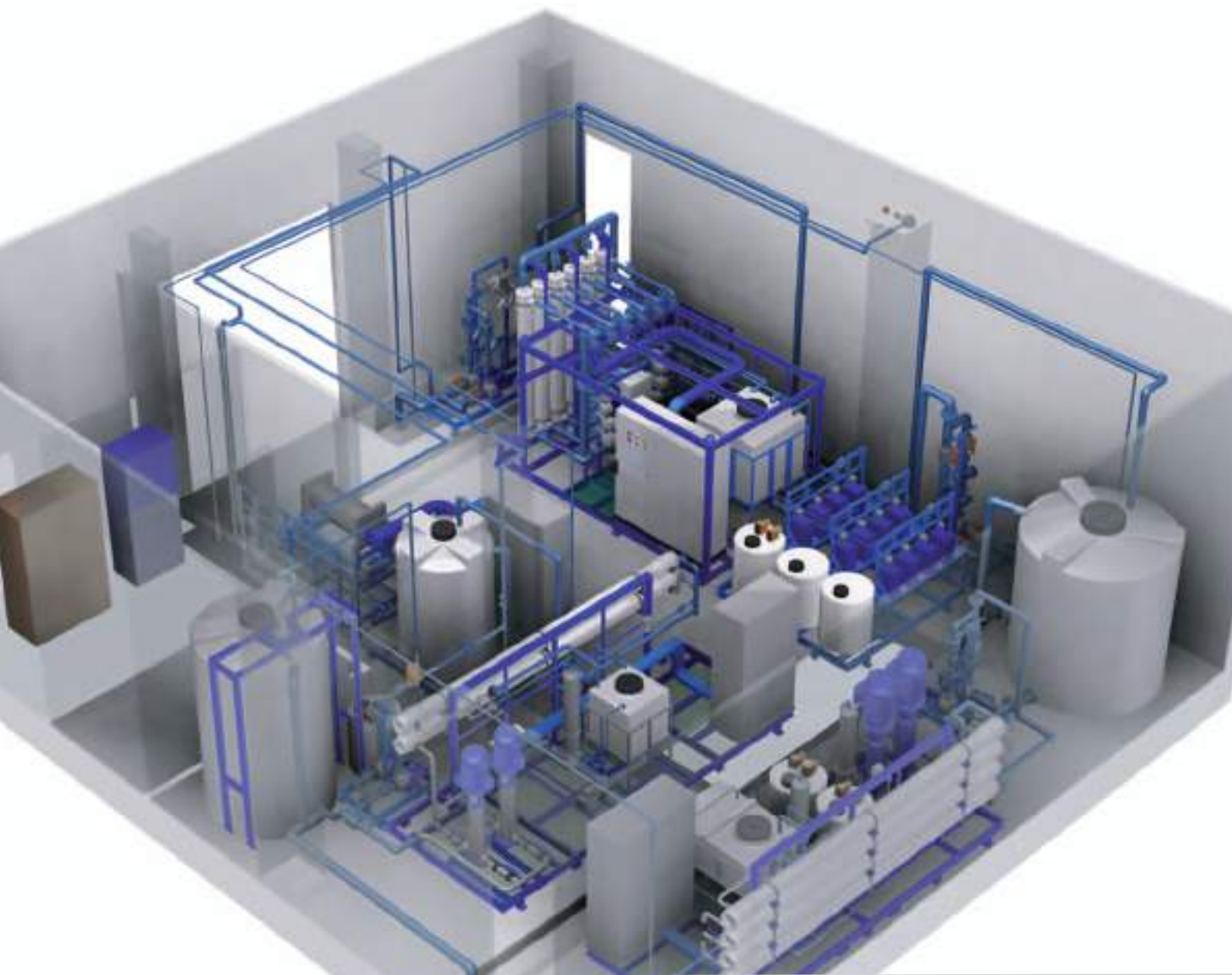
POWER STATION WASTE WATER REUSE - Italy, 2012

tech specs:

PRE-FILTRATION	500 m ³ /h
ACTIVATED CARBON FILTRATION	224÷748 m ³ /h
ULTRAFILTRATION (60÷120 l/h)	213÷426 m ³ /h
CARTRIDGE MICRO-FILTRATION	176 m ³ /h
REVERSE OSMOSIS	90 m ³ /h



ULTRAFILTRATION, REVERSE OSMOSIS & ELECTRODEIONIZATION



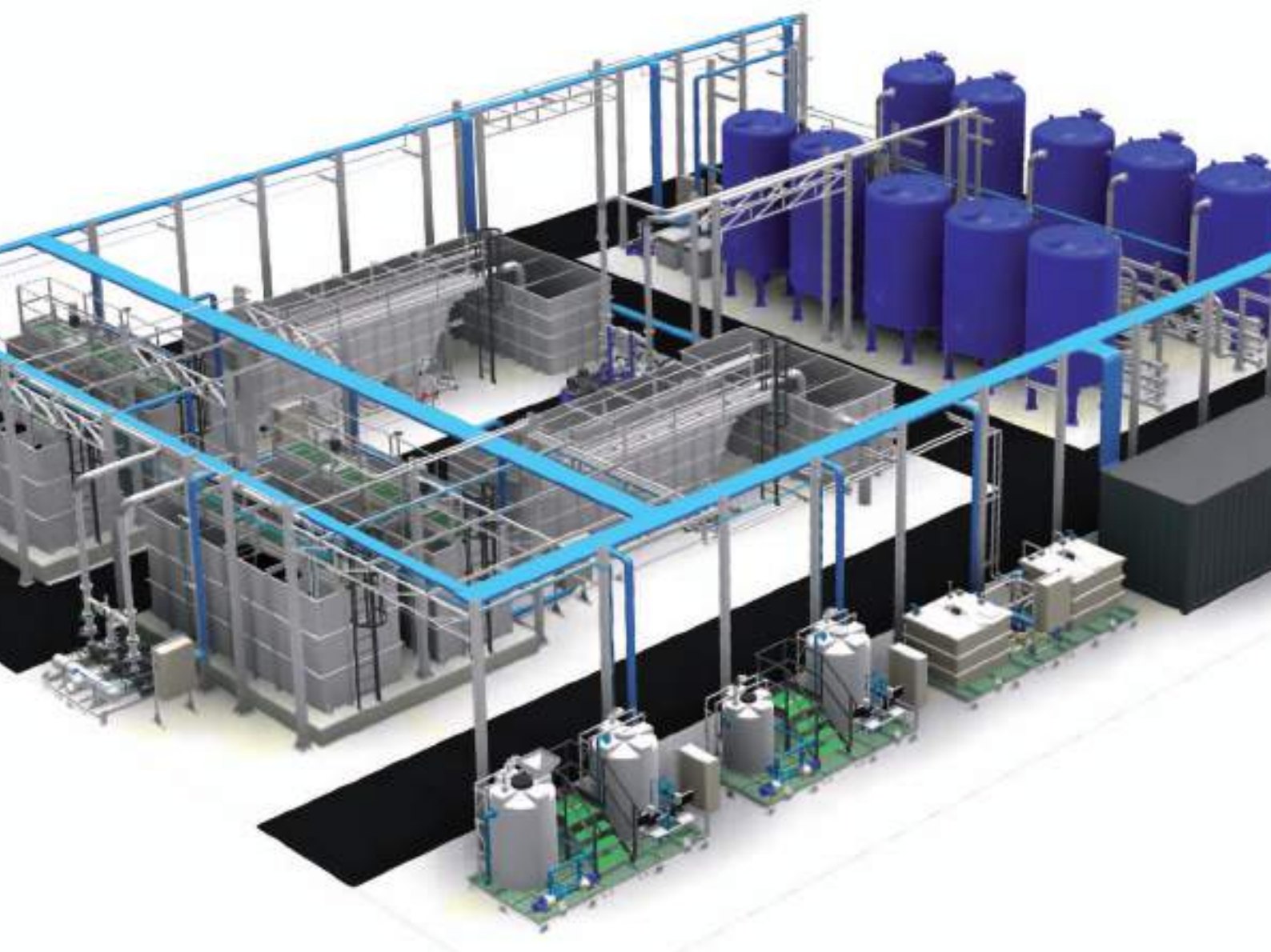
WELL WATER DEMINERALIZATION - Italy, 2012

tech specs:

PRE-FILTRATION	25 m ³ /h
ULTRAFILTRATION (60÷120 l/h)	28÷56 m ³ /h
CARTRIDGE MICRO-FILTRATION	25 m ³ /h
1 st PASS REVERSE OSMOSIS	18 m ³ /h
2 nd PASS REVERSE OSMOSIS	8.5 m ³ /h
ELECTRODEIONIZATION	8 m ³ /h



PHYSICAL-CHEMICAL & MEDIA FILTRATION



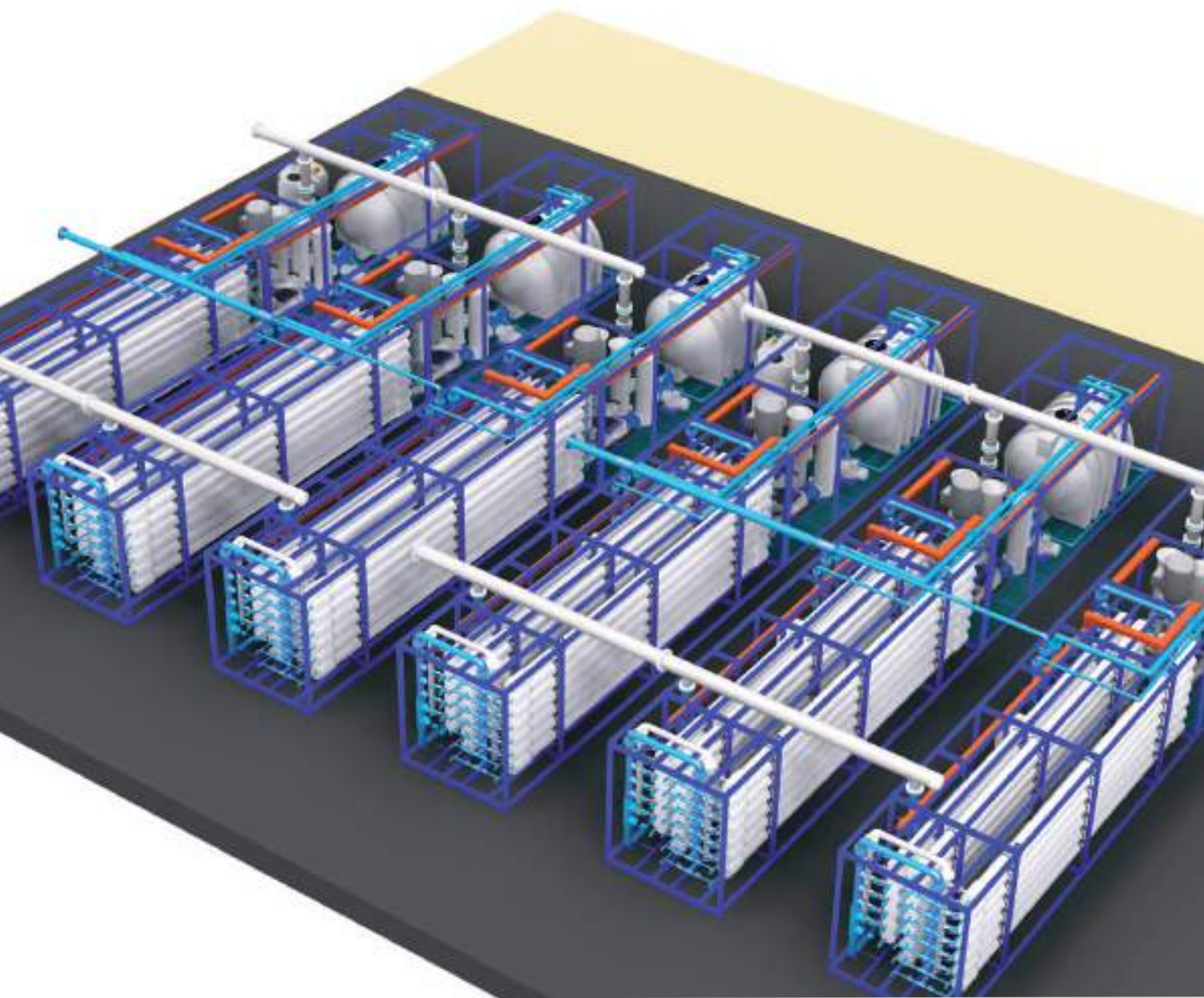
RIVER WATER PURIFICATION - Middle East, 2012

tech specs:

COAGULATION - FLOCCULATION	350 m ³ /h
CLARIFICATION	350 m ³ /h
DUAL-MEDIA FILTRATION	330 m ³ /h
GAC FILTRATION	320 m ³ /h



REVERSE OSMOSIS



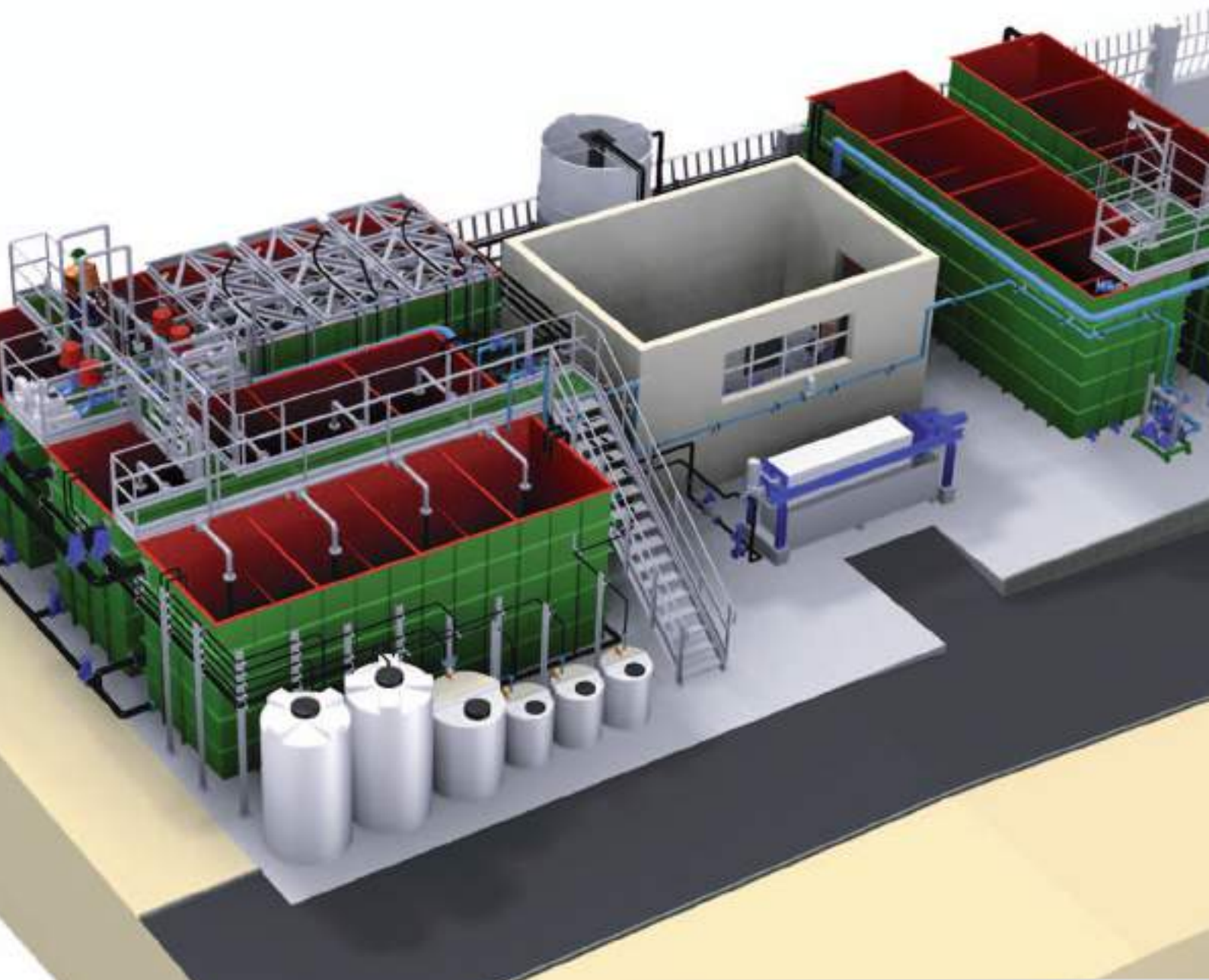
INDUSTRIAL WASTE WATER REUSE - Africa, 2012

tech specs:

CARTRIDGE MICRO-FILTRATION	1,056 m ³ /h
REVERSE OSMOSIS	750 m ³ /h



BIOLOGICAL



PHARMACEUTICAL INDUSTRY WASTE WATER PURIFICATION

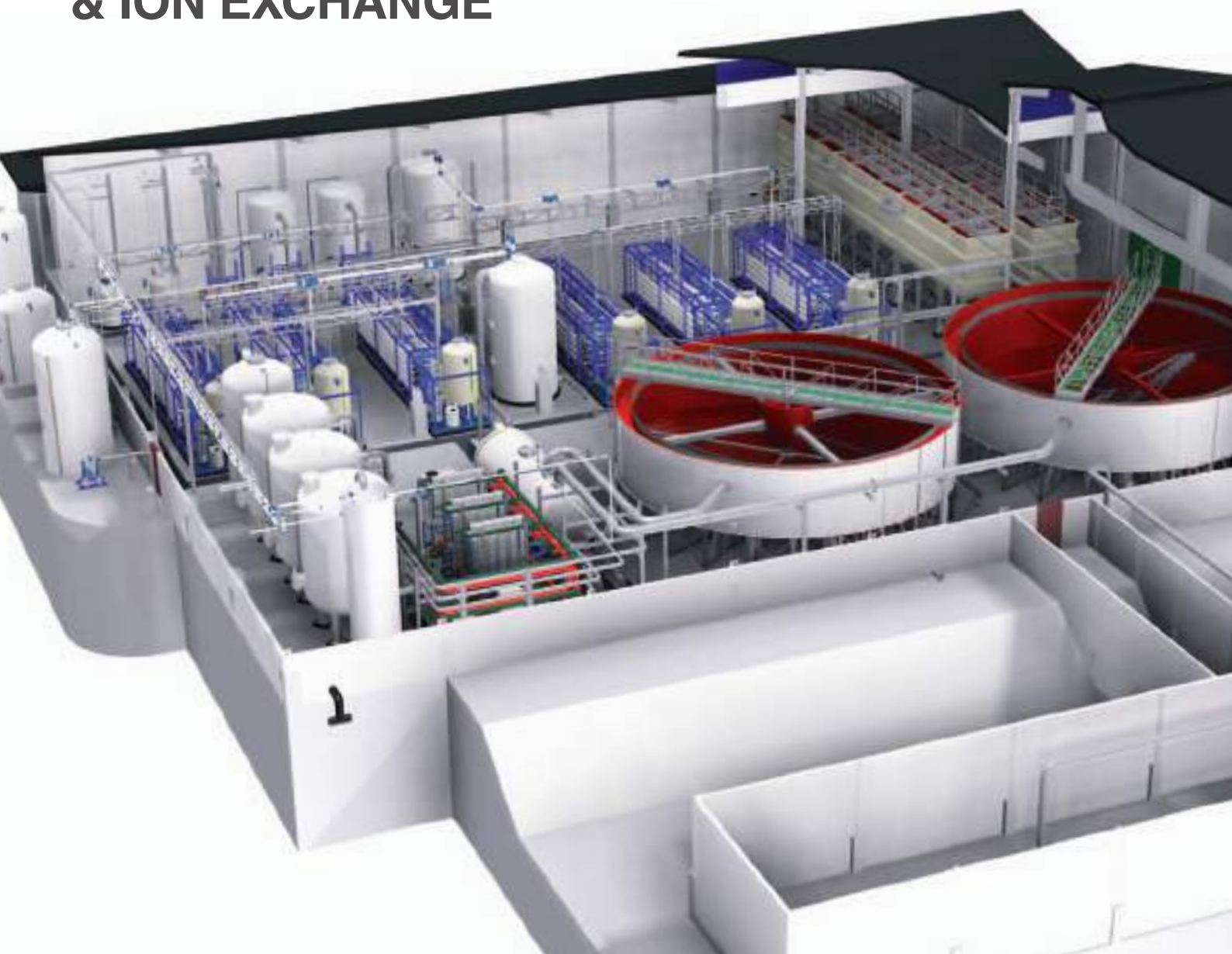
Central America, 2012/2013

tech specs:

SCREENING	10 m ³ /h
MOBILE BED BIOREACTION	
MEMBRANE BIOLOGICAL REACTION	
SLUDGE TICKENING	



PHYSICAL-CHEMICAL, MEDIA FILTRATION, ULTRAFILTRATION, REVERSE OSMOSIS & ION EXCHANGE



DAM WATER DEMINERALIZATION - Central America, 2012/2013

tech specs:

CLARIFICATION	430 m ³ /h
MULTI-MEDIA FILTRATION (V=20 m/h)	420 m ³ /h
CARTRIDGE MICRO-FILTRATION	400 m ³ /h
ULTRAFILTRATION	282 m ³ /h
1 st PASS REVERSE OSMOSIS	225 m ³ /h
2 nd PASS REVERSE OSMOSIS	200 m ³ /h
POLISHING (30÷60 BV)	240÷480 m ³ /h



PHYSICAL-CHEMICAL, MEDIA FILTRATION, REVERSE OSMOSIS & ION EXCHANGE



SEA WATER DEMINERALIZATION - Central America, 2012/2013

tech specs:

CLARIFICATION	25 m ³ /h
MULTI-MEDIA FILTRATION (V=20 m/h)	25 m ³ /h
CARTRIDGE MICRO-FILTRATION	25 m ³ /h
1 st PASS REVERSE OSMOSIS	10 m ³ /h
2 nd PASS REVERSE OSMOSIS	6 m ³ /h
POLISHING (30÷60 BV)	5÷15 m ³ /h



PHYSICAL-CHEMICAL & MEDIA FILTRATION



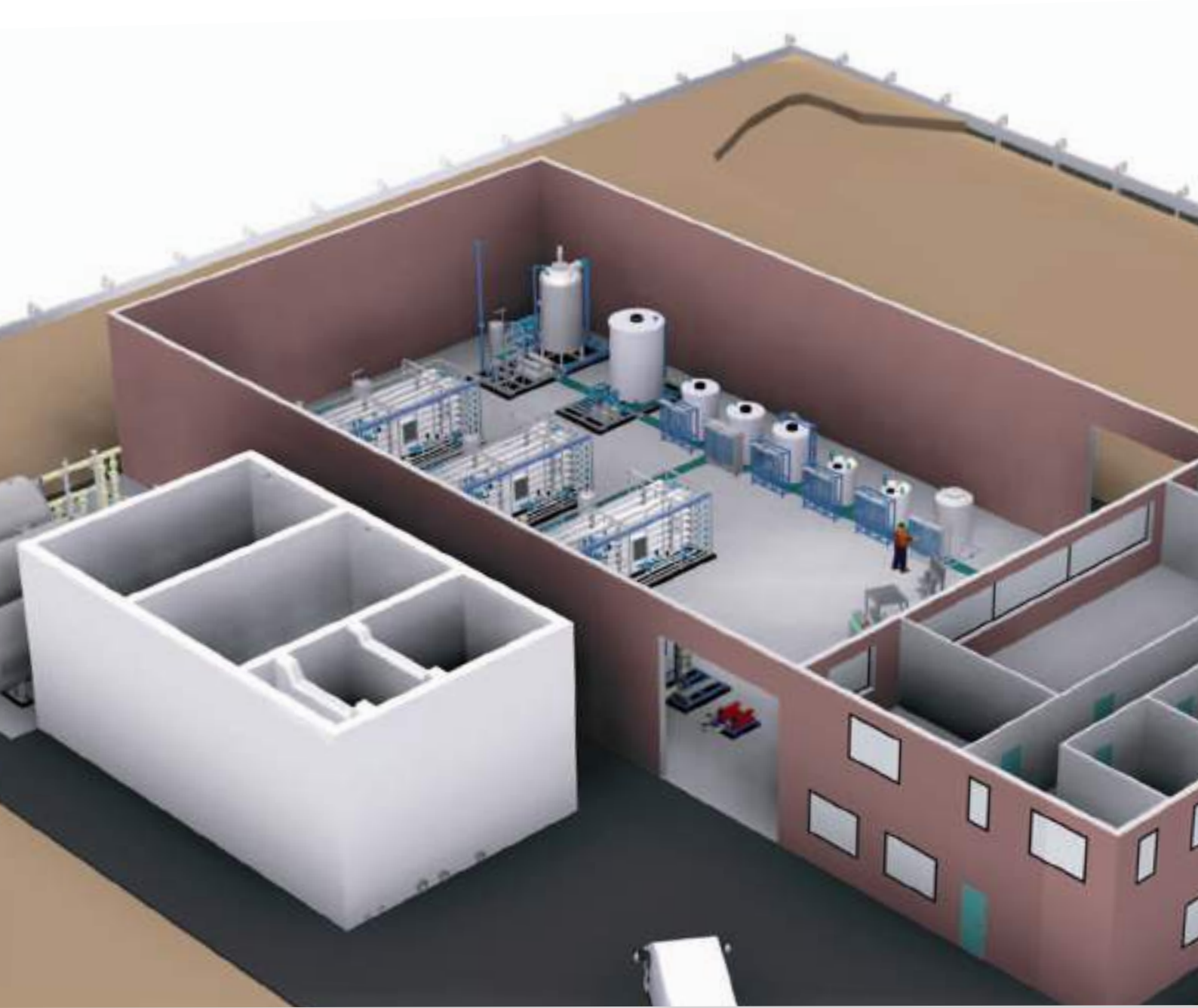
RIVER WATER PURIFICATION - Europe, 2012/2013

tech specs:

COAGULATION - FLOCCULATION	1,300 m ³ /h
CLARIFICATION	1,290 m ³ /h
MEDIA FILTRATION	1,270 m ³ /h
GAC FILTRATION	1,260 m ³ /h



MEDIA FILTRATION & REVERSE OSMOSIS



WELL WATER DESALINATION - North Africa, 2013

tech specs (plant 1):

MEDIA FILTRATION (V=20 m/h)	930 m³/h
CARTRIDGE MICRO-FILTRATION	720 m³/h
REVERSE OSMOSIS	250 m³/h

tech specs (plant 2):

MEDIA FILTRATION (V=20 m/h)	642 m³/h
CARTRIDGE MICRO-FILTRATION	480 m³/h
REVERSE OSMOSIS	167 m³/h

tech specs (plant 3):

MEDIA FILTRATION (V=20 m/h)	150 m³/h
CARTRIDGE MICRO-FILTRATION	88 m³/h
REVERSE OSMOSIS	33 m³/h



ION EXCHANGE



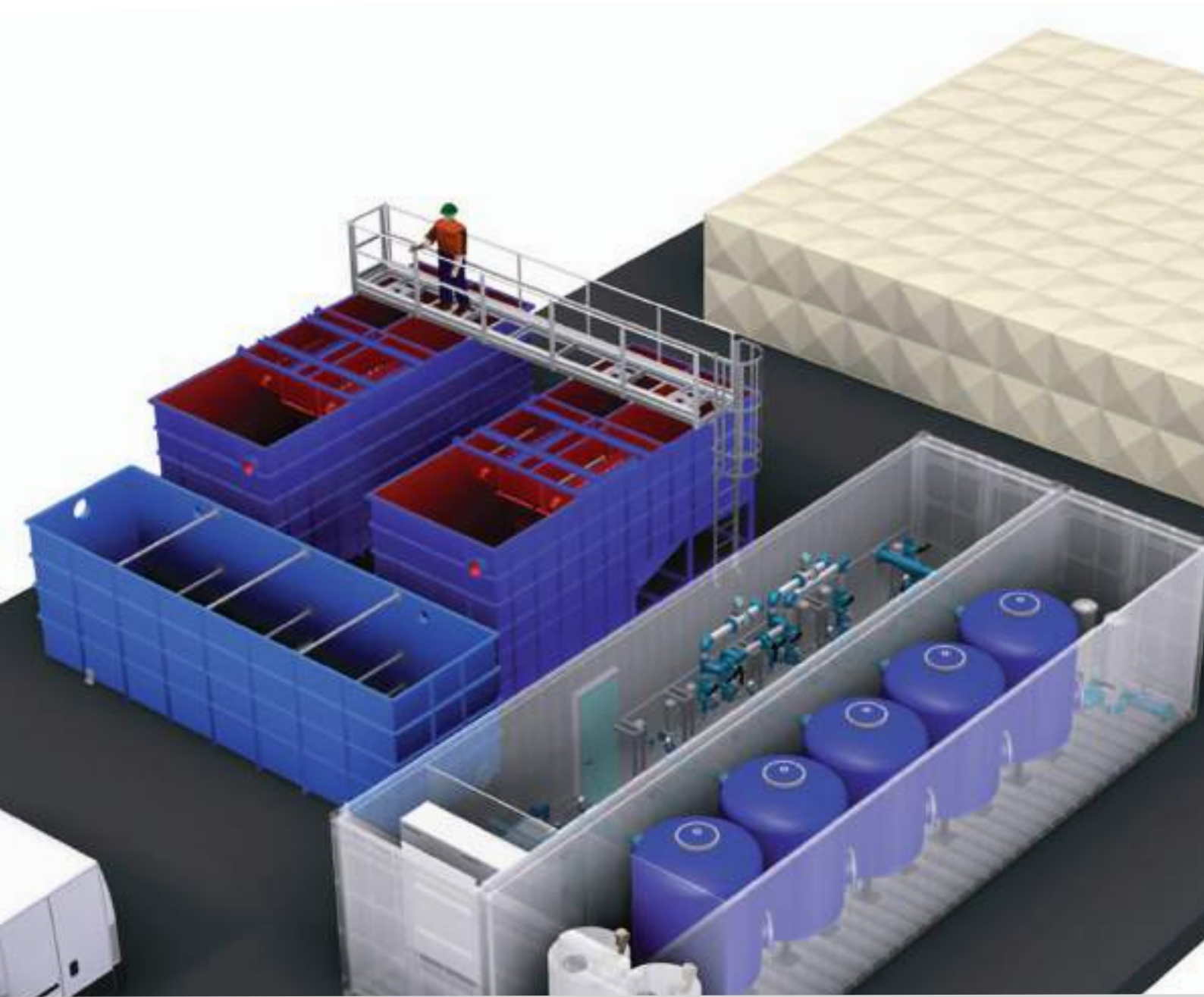
PROCESS WATER DEMINERALIZATION - South America, 2013

tech specs:

PRE-FILTRATION	60 m ³ /h
ORGANIC SCAVENGING	30 m ³ /h
CATION EXCHANGE	30 m ³ /h
ANION EXCHANGE	30 m ³ /h



PHYSICAL-CHEMICAL & MEDIA FILTRATION



RIVER WATER PURIFICATION - Middle east, 2013

tech specs:

COAGULATION - FLOCCULATION	105 m³/h
SETTLEMENT	105 m³/h
MEDIA FILTRATION	105 m³/h



PHYSICAL-CHEMICAL



REFINERY WASTE WATER PURIFICATION - North Africa, 2013

tech specs:

SEDI-FLOTATION	30 m ³ /h
COALESCENCE	30 m ³ /h



ULTRAFILTRATION



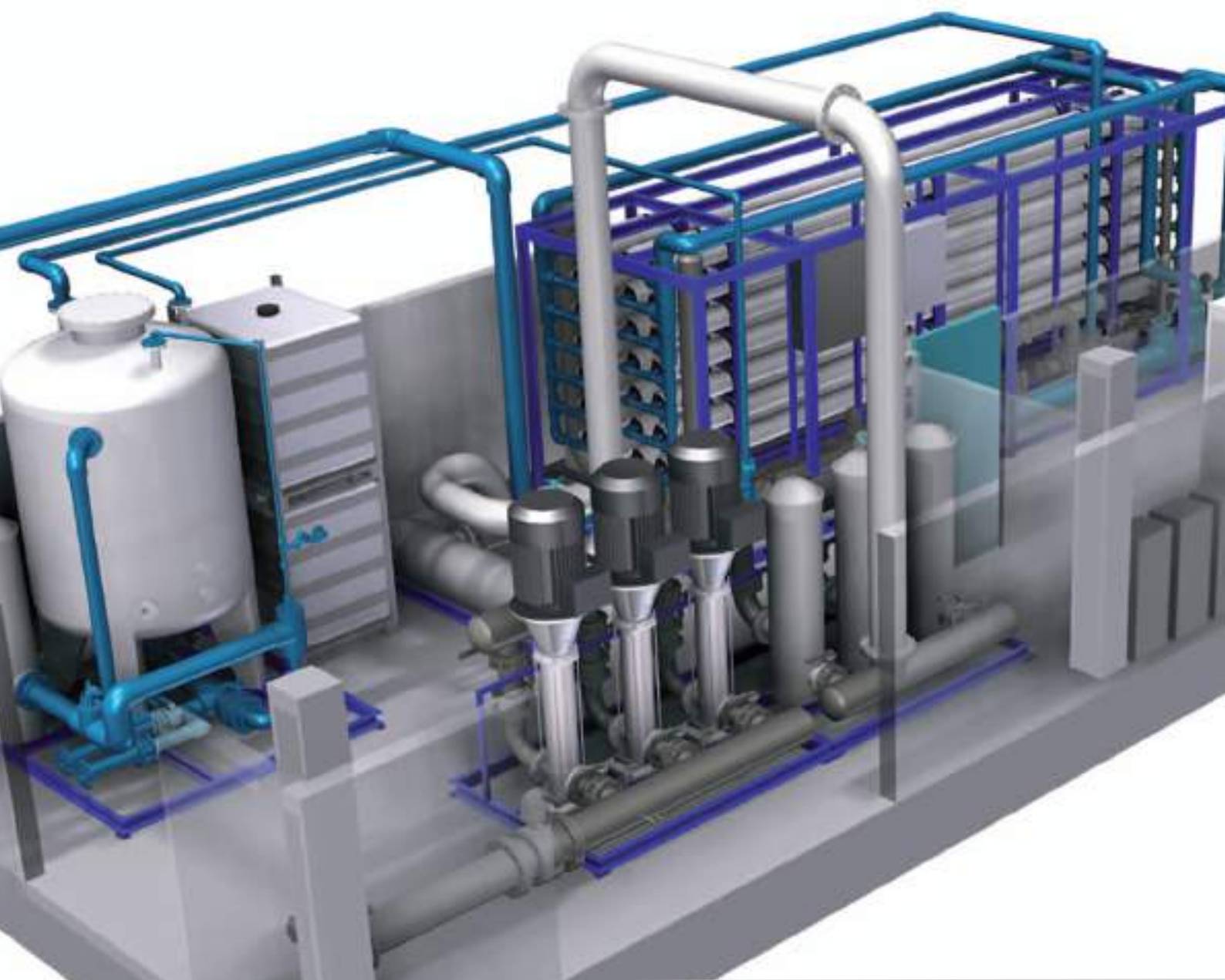
DAM WATER PURIFICATION - Central America, 2013

tech specs:

PRE-FILTRATION	40 m ³ /h
ULTRAFILTRATION (60-120 l/h)	18÷36 m ³ /h
CARTRIDGE MICRO-FILTRATION	28 m ³ /h
GAC FILTRATION	15 m ³ /h



REVERSE OSMOSIS



WELL WATER PURIFICATION - Italy, 2013

tech specs:

CARTRIDGE MICRO-FILTRATION	300 m ³ /h
REVERSE OSMOSIS	180 m ³ /h



MEDIA FILTRATION



WELL WATER PURIFICATION - Italy, 2013

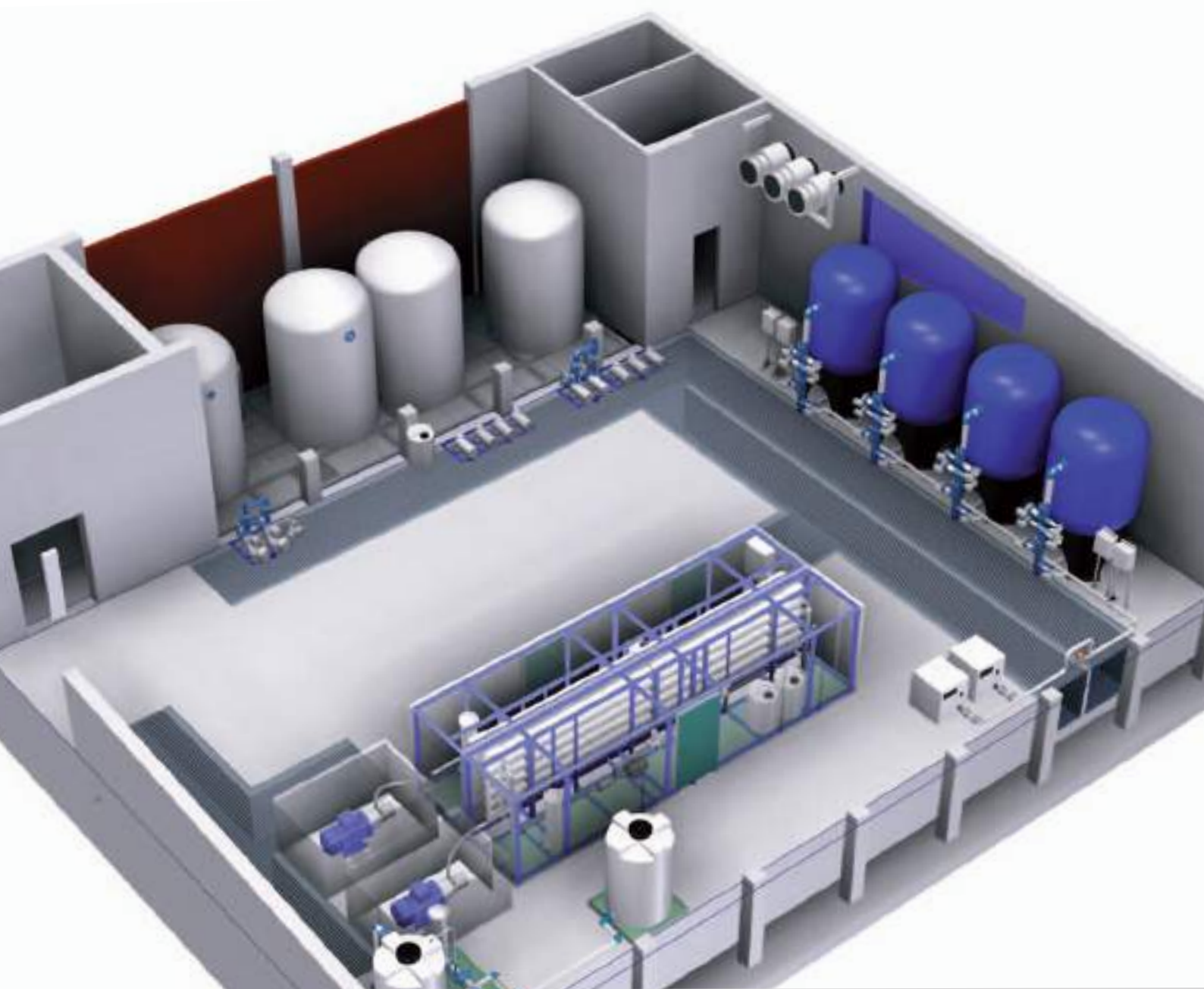
tech specs:

ARSENIC REMOVAL

33 m³/h



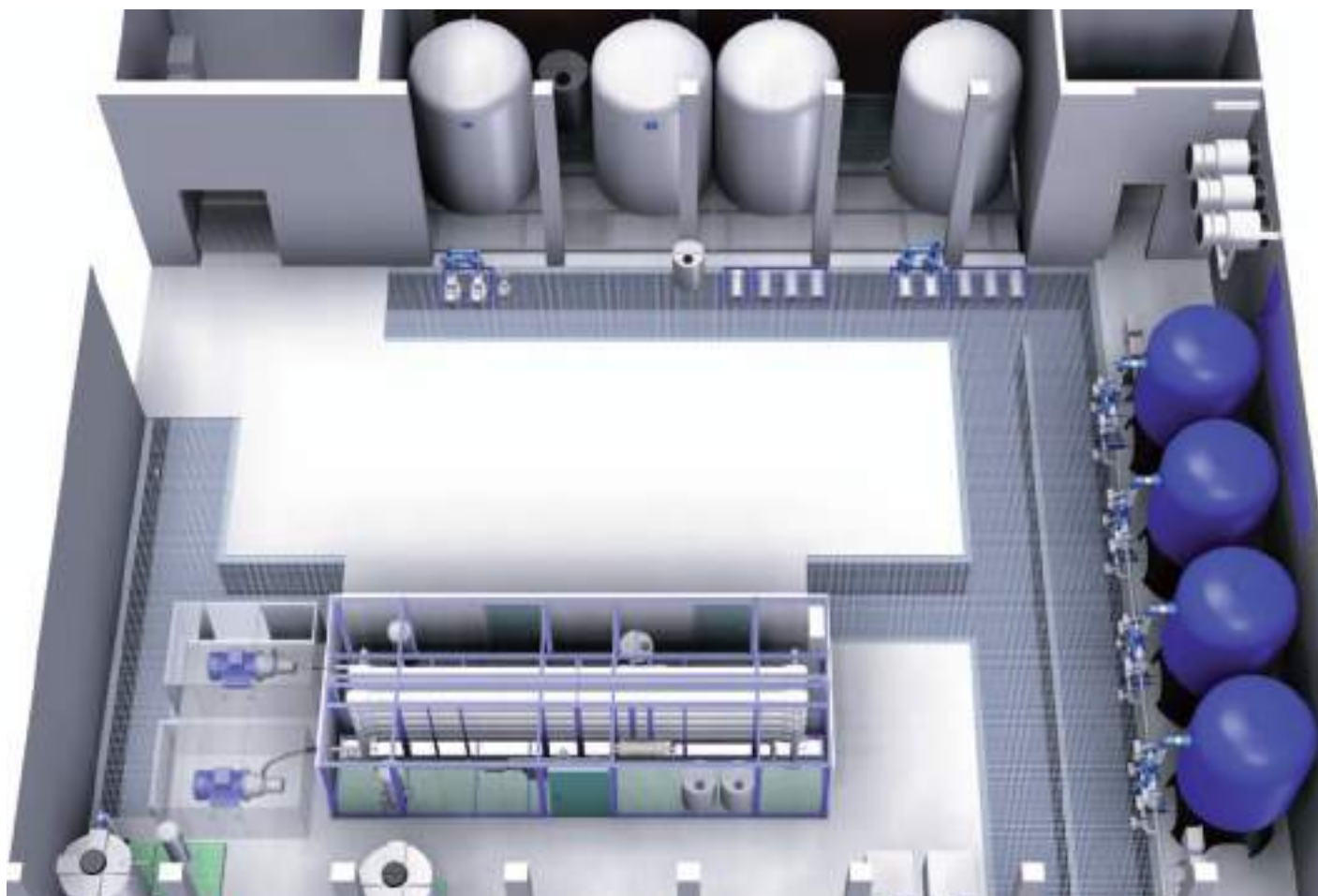
MEDIA FILTRATION & REVERSE OSMOSIS



SEA WATER DESALINATION - Italy, 2013

tech specs:

MEDIA FILTRATION	150 m ³ /h
CARTRIDGE MICRO-FILTRATION	150 m ³ /h
REVERSE OSMOSIS	60 m ³ /h



MEDIA FILTRATION, REVERSE OSMOSIS & ELECTRODEIONIZATION



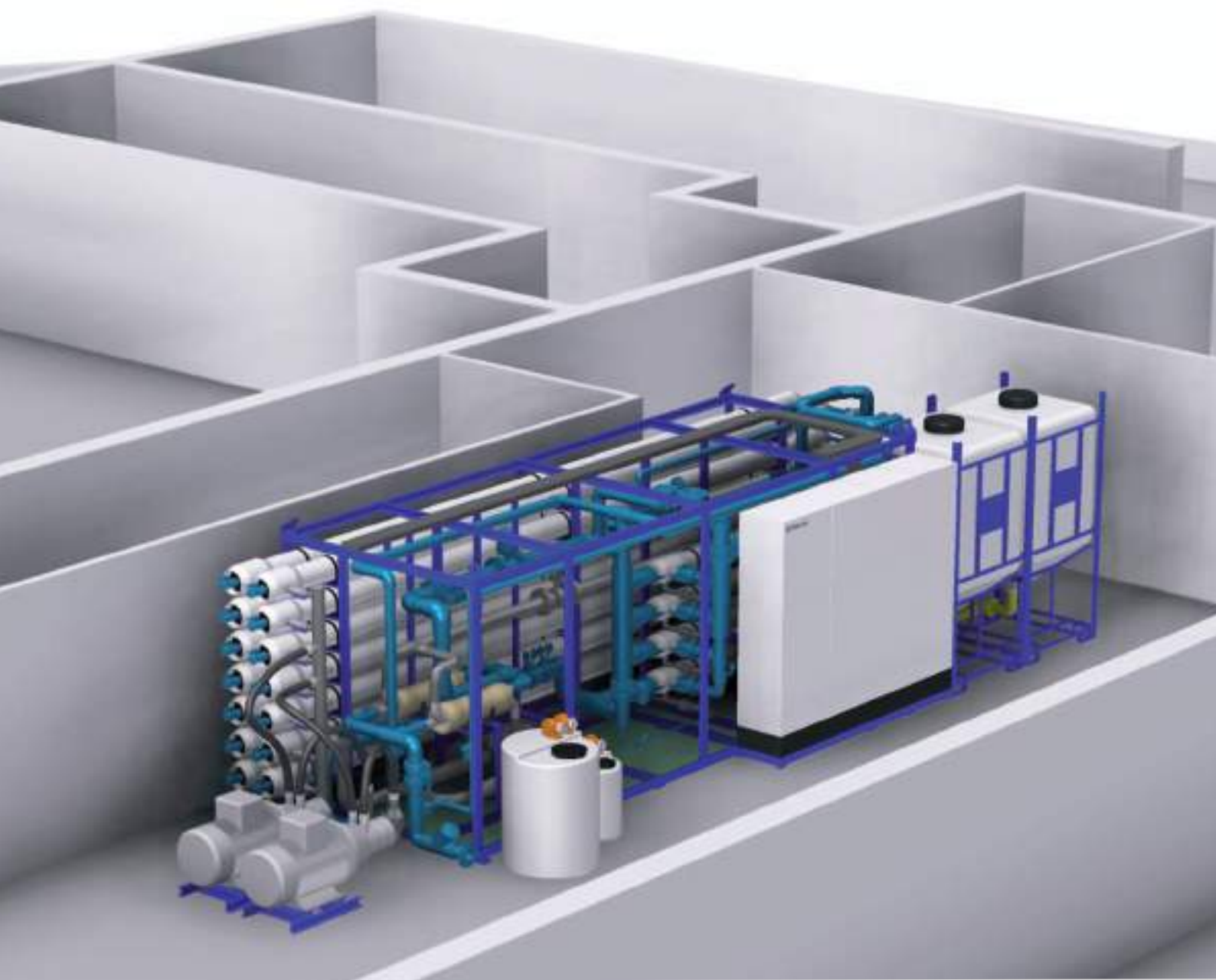
WELL WATER DEMINERALIZATION - Italy, 2013

tech specs:

MEDIA FILTRATION	40 m ³ /h
CARTRIDGE MICRO-FILTRATION	40 m ³ /h
1 st PASS REVERSE OSMOSIS	30 m ³ /h
2 nd PASS REVERSE OSMOSIS	27 m ³ /h
ELECTRODEIONIZATION	25 m ³ /h



REVERSE OSMOSIS



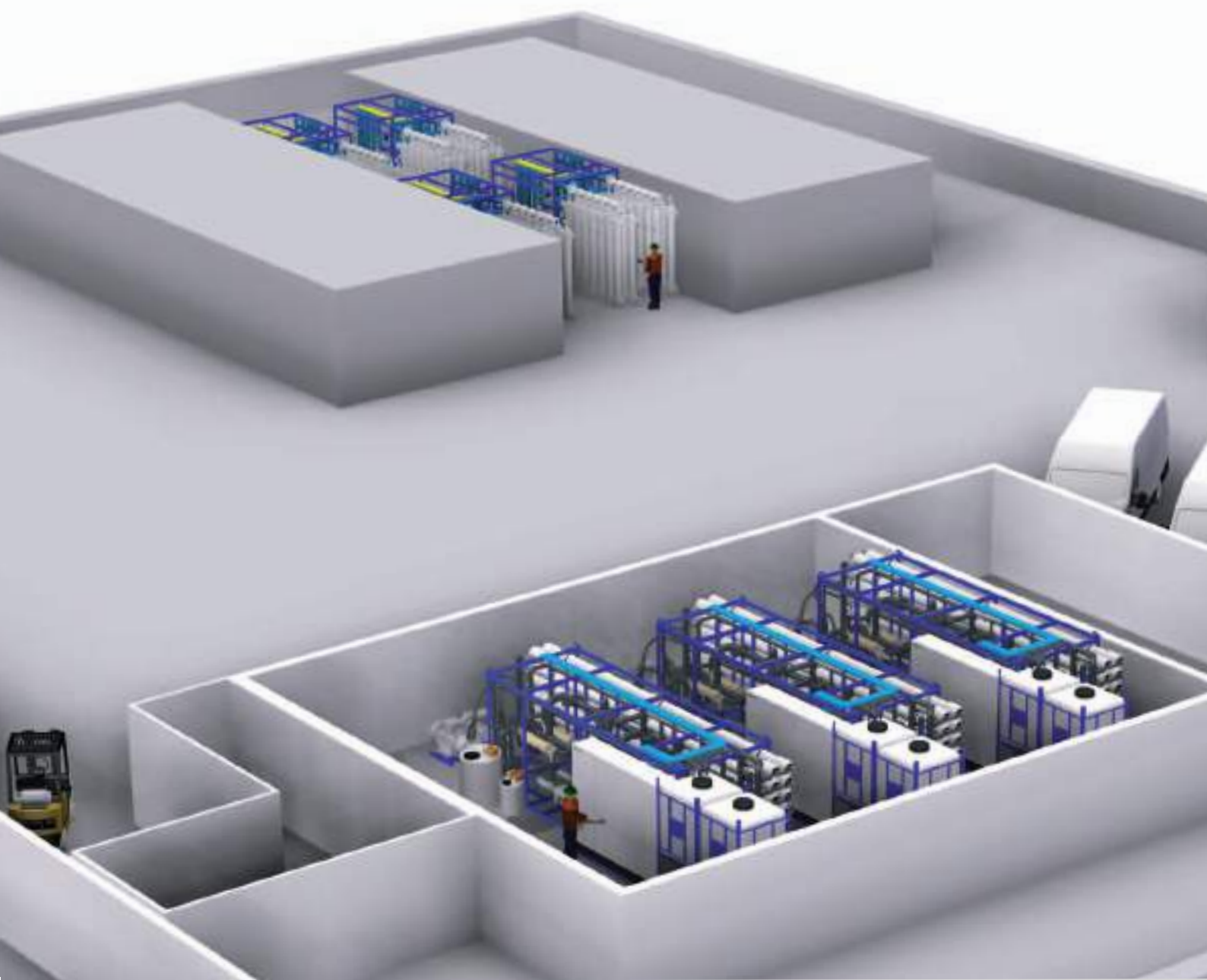
SEA WATER DESALINATION - Italy, 2014

tech specs:

CARTRIDGE MICRO-FILTRATION	120 m ³ /h
REVERSE OSMOSIS	50 m ³ /h
REMINERALIZATION	50 m ³ /h



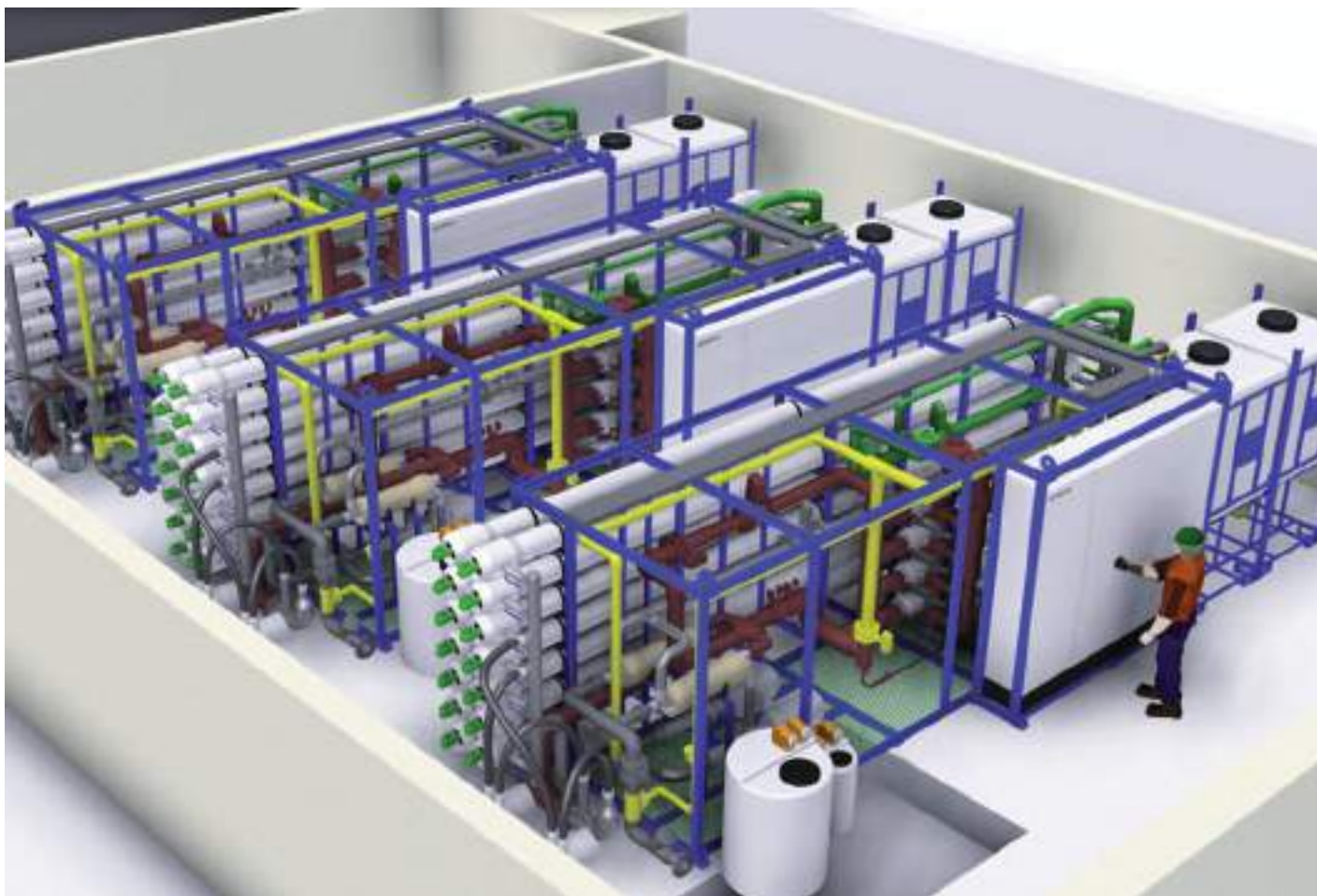
ULTRAFILTRATION & REVERSE OSMOSIS



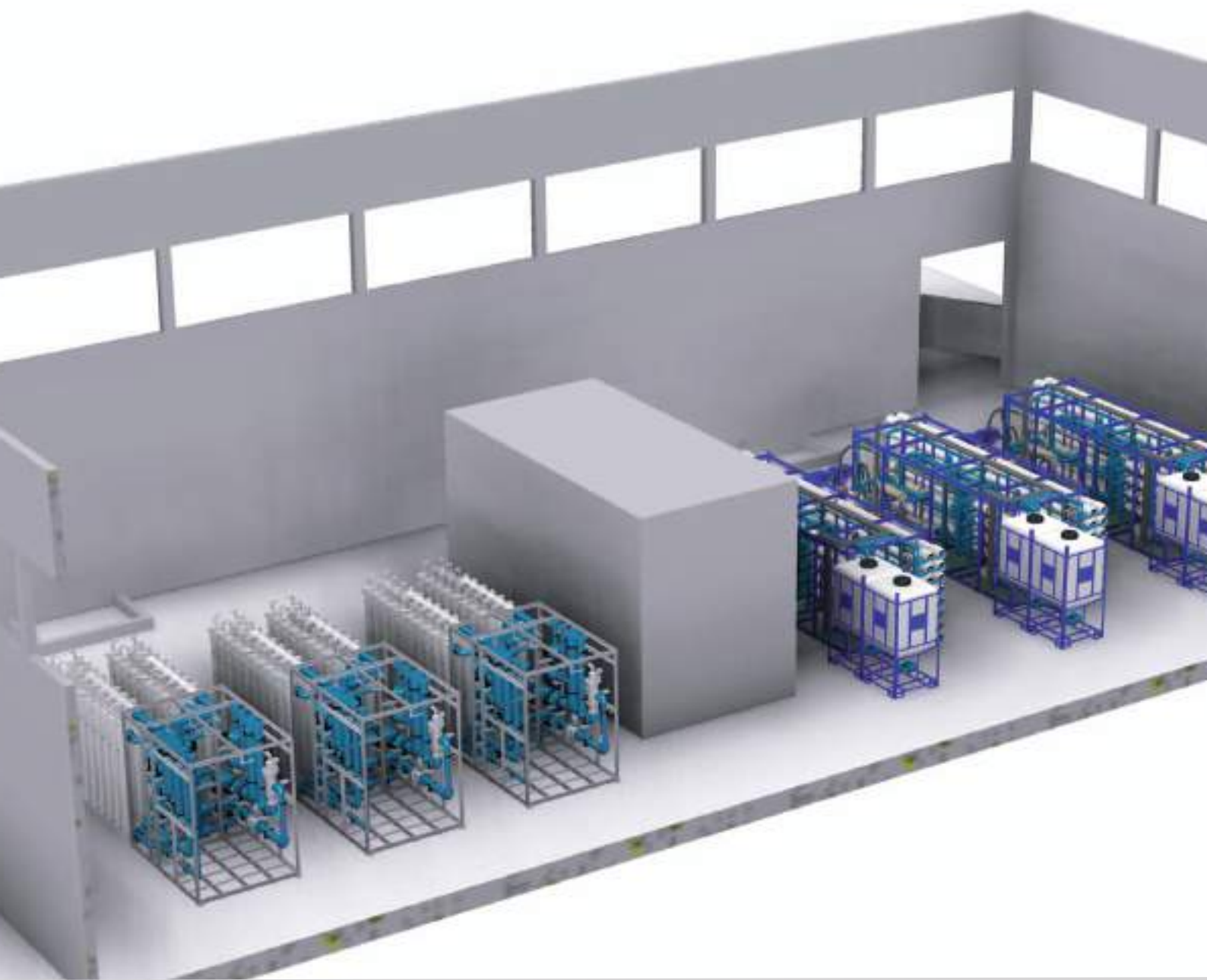
SEA WATER DESALINATION - Italy, 2014

tech specs:

PRE-FILTRATION	480 m ³ /h
ULTRAFILTRATION (60÷120 l/h)	340÷680 m ³ /h
CARTRIDGE MICRO-FILTRATION	480 m ³ /h
REVERSE OSMOSIS	150 m ³ /h
REMINERALIZATION	150 m ³ /h



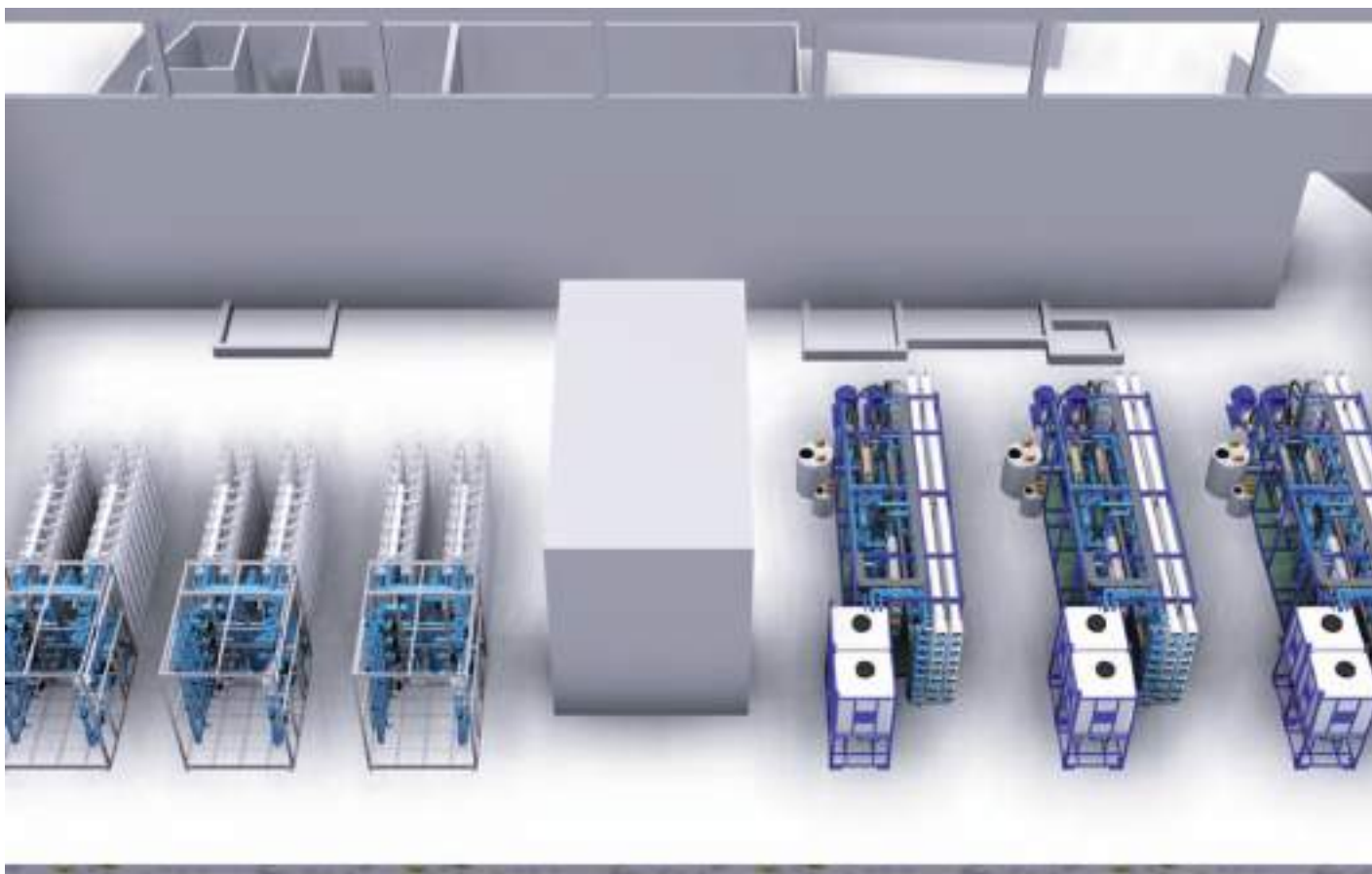
ULTRAFILTRATION & REVERSE OSMOSIS



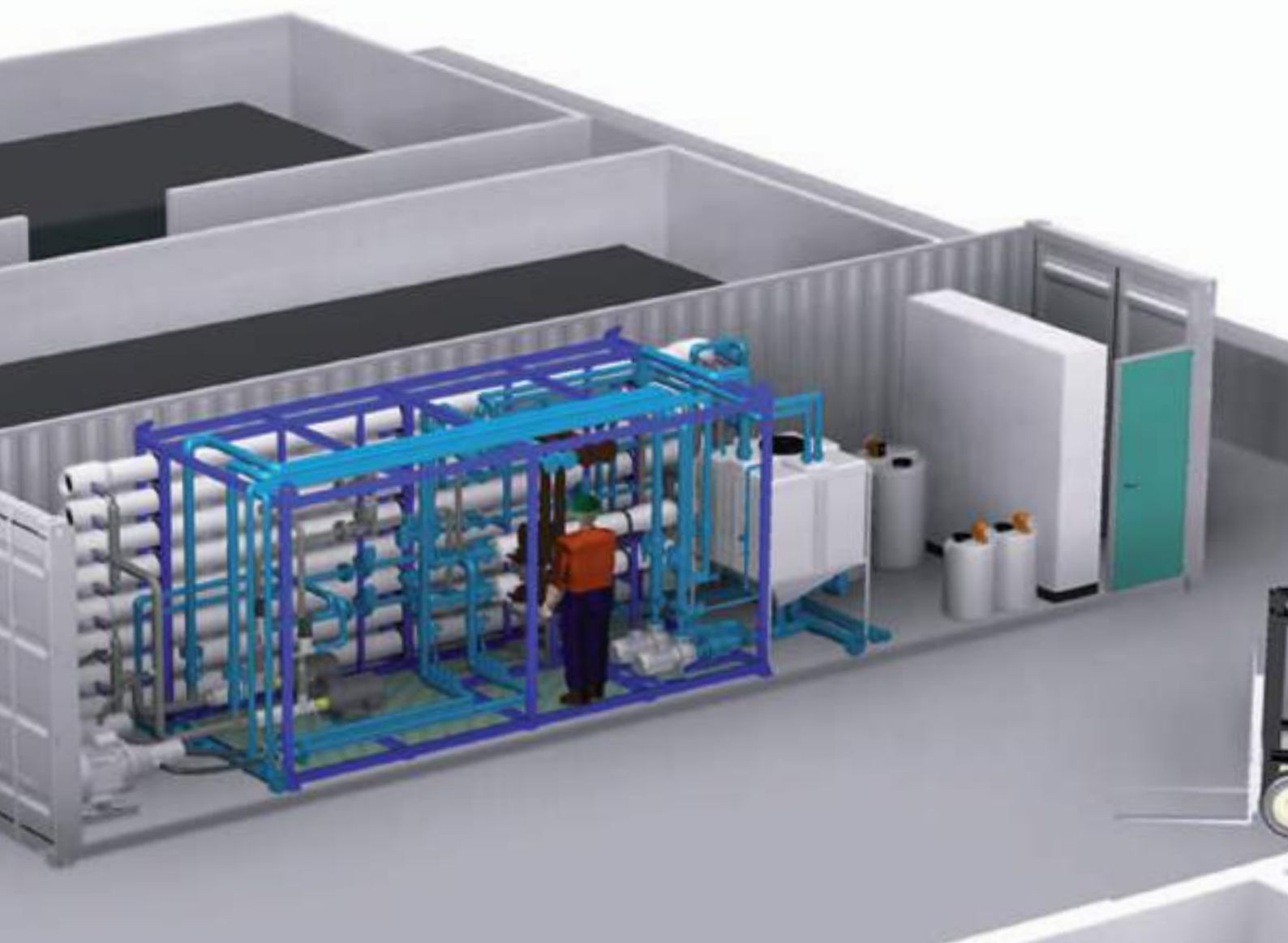
SEA WATER DESALINATION - Italy, 2014

tech specs:

PRE-FILTRATION	600 m ³ /h
ULTRAFILTRATION (60÷120 l/h)	440÷880 m ³ /h
CARTRIDGE MICRO-FILTRATION	500 m ³ /h
REVERSE OSMOSIS	188 m ³ /h
REMINERALIZATION	188 m ³ /h



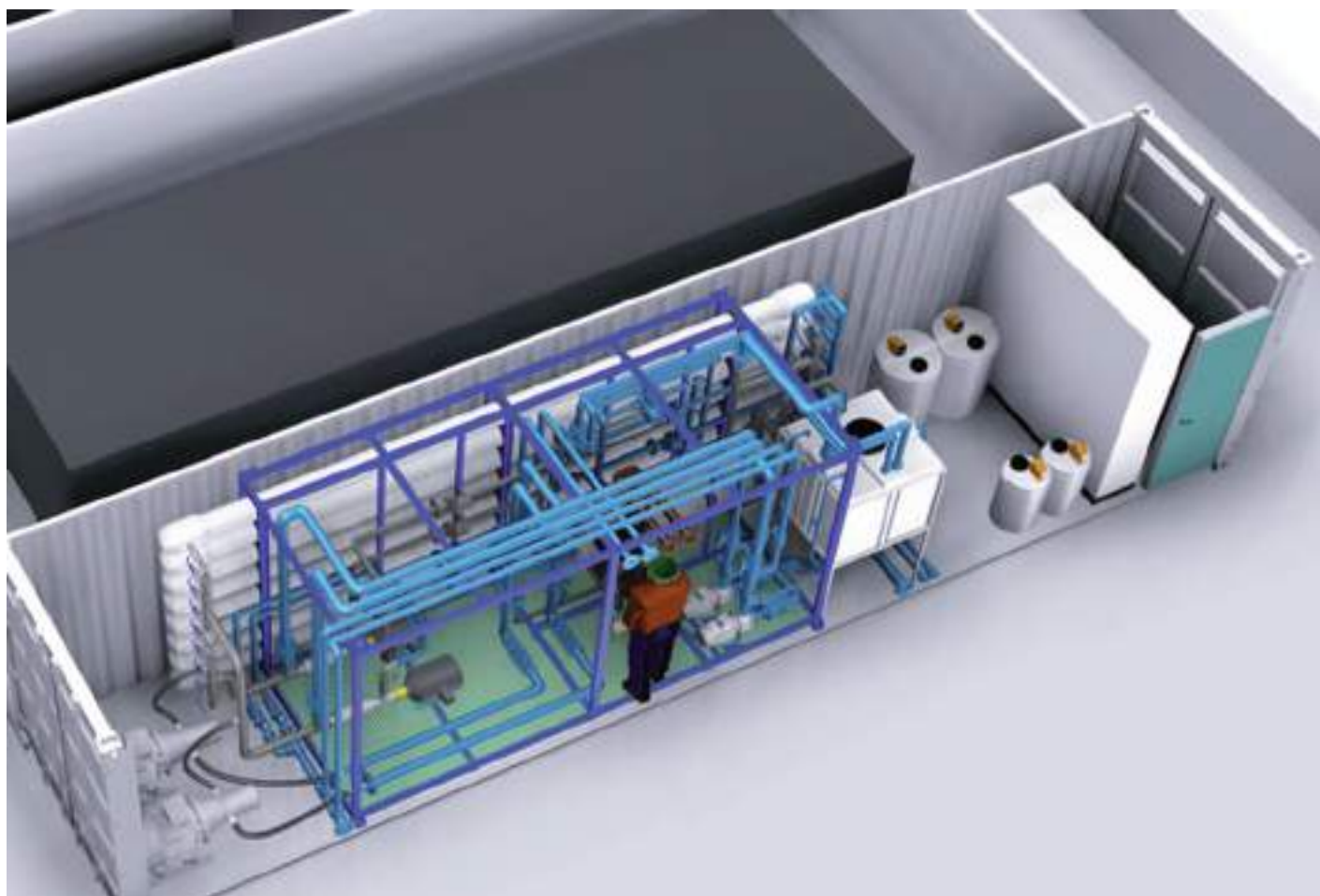
MEDIA FILTRATION & REVERSE OSMOSIS



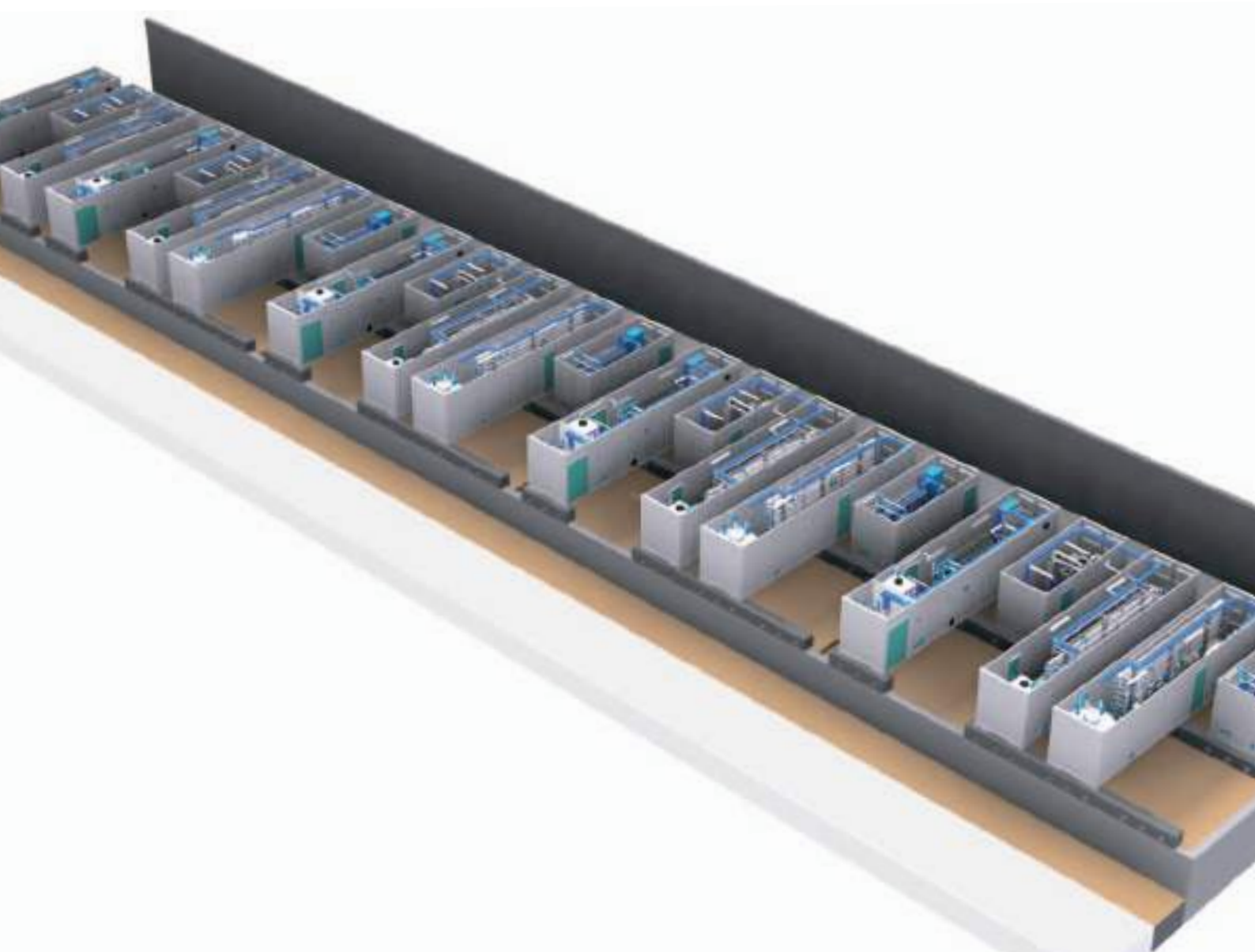
SEA WATER DESALINATION - Italy, 2014

tech specs:

MEDIA FILTRATION	60 m ³ /h
CARTRIDGE MICRO-FILTRATION	60 m ³ /h
REVERSE OSMOSIS	25 m ³ /h
REMINERALIZATION	25 m ³ /h



ULTRAFILTRATION, REVERSE OSMOSIS & ELECTRODEIONIZATION



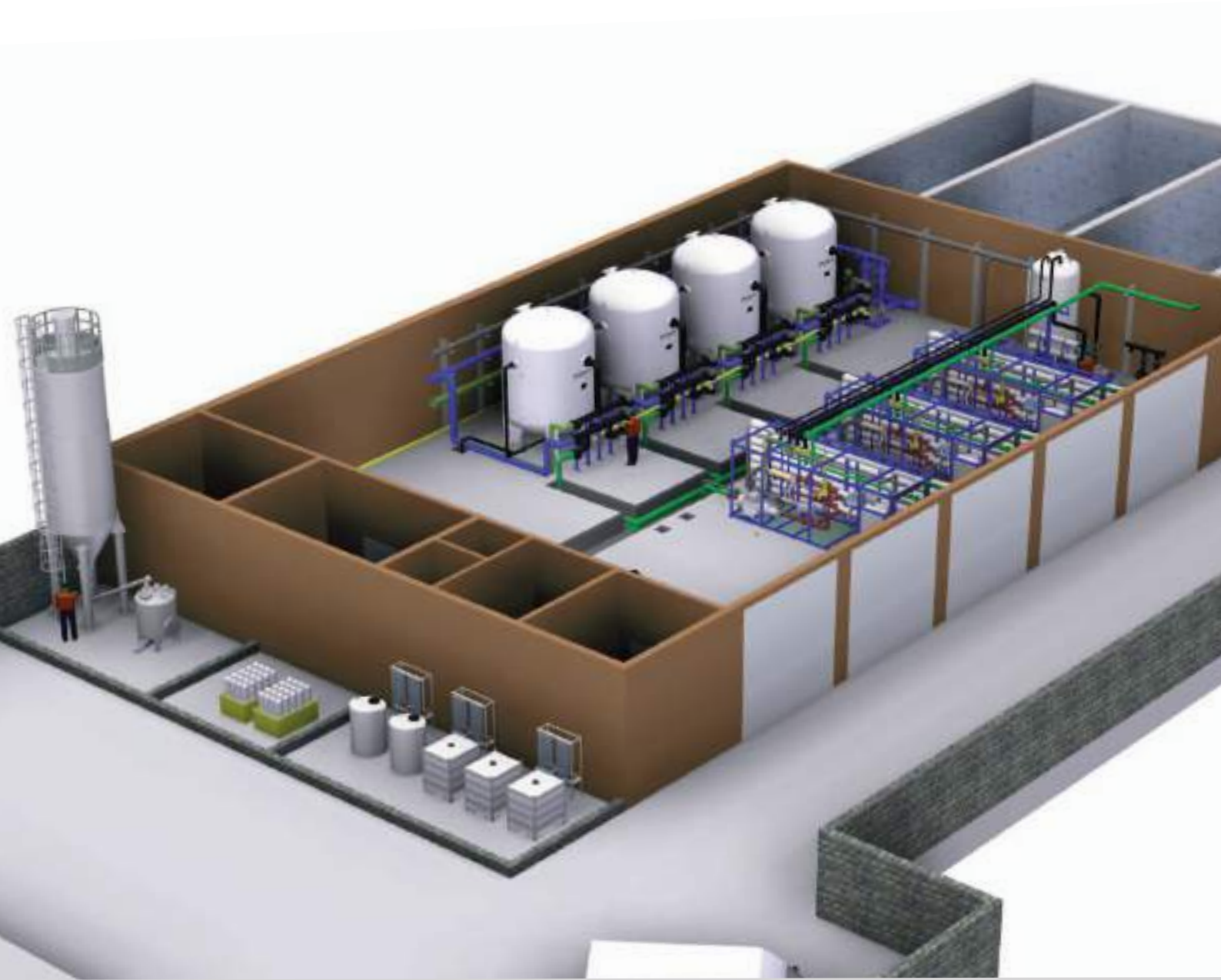
SEA WATER DESALINATION - Italy, 2014

tech specs:

PRE-FILTRATION	600 m ³ /h
ULTRAFILTRATION (60÷120 l/h)	450÷900 m ³ /h
CARTRIDGE MICRO-FILTRATION	350 m ³ /h
1 st PASS REVERSE OSMOSIS	250 m ³ /h
2 nd PASS REVERSE OSMOSIS	210 m ³ /h
ELECTRODEIONIZATION	200 m ³ /h



MEDIA FILTRATION & REVERSE OSMOSIS



SEA WATER DESALINATION - Italy, 2014

tech specs:

MEDIA FILTRATION	210 m³/h
CARTRIDGE MICRO-FILTRATION	210 m³/h
REVERSE OSMOSIS	90 m³/h



MEDIA FILTRATION & REVERSE OSMOSIS



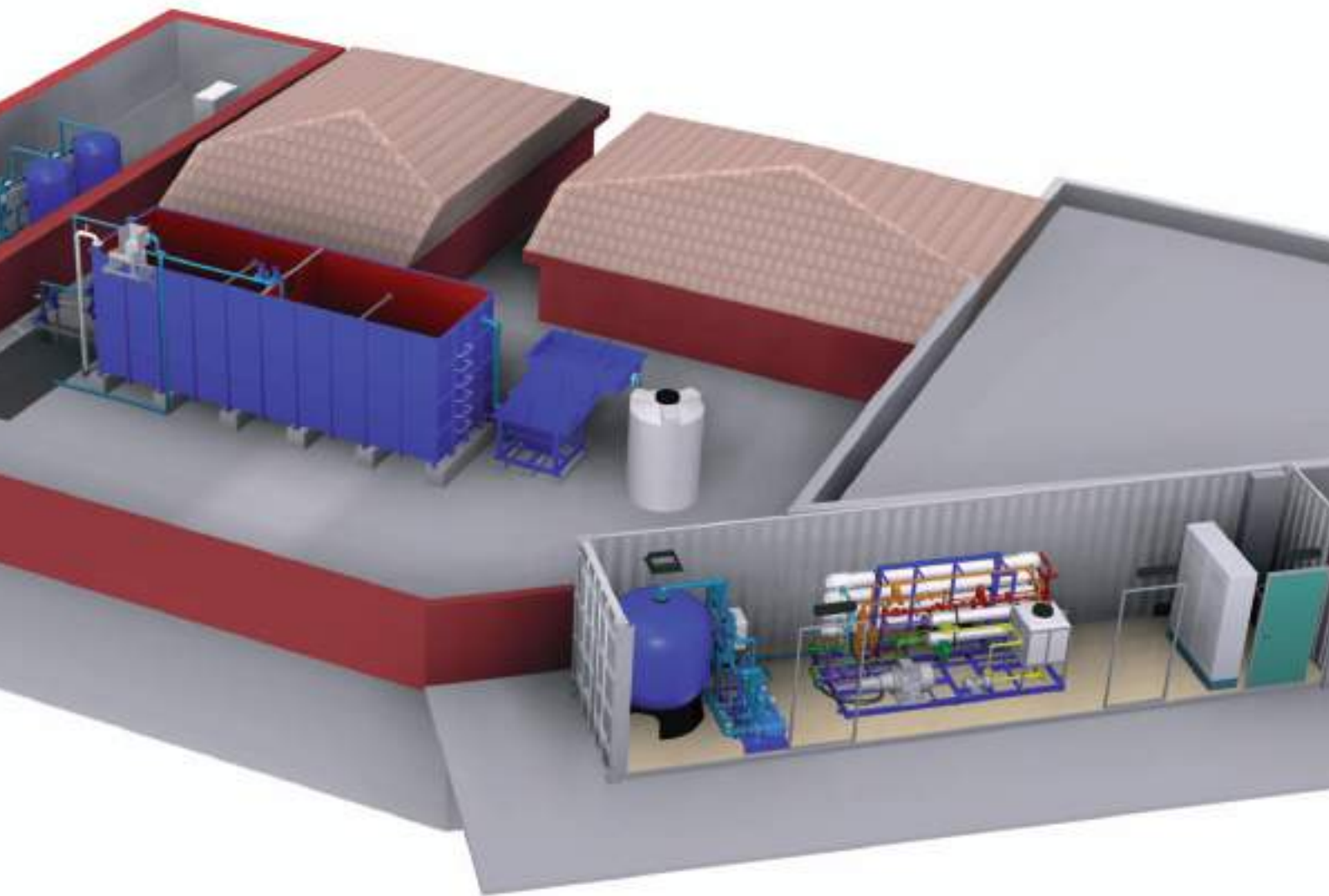
SEA WATER DESALINATION - Central America, 2014

tech specs:

MEDIA FILTRATION	60 m³/h
CARTRIDGE MICRO-FILTRATION	60 m³/h
REVERSE OSMOSIS	25 m³/h



BIOLOGICAL, MEDIA FILTRATION & REVERSE OSMOSIS



Central America, 2014

WASTE WATER TREATMENT

tech specs:

MOVING BED BIOFILM REACTION	6.25 m³/h
SETTLEMENT	6.25 m³/h
MEDIA FILTRATION	6.25 m³/h

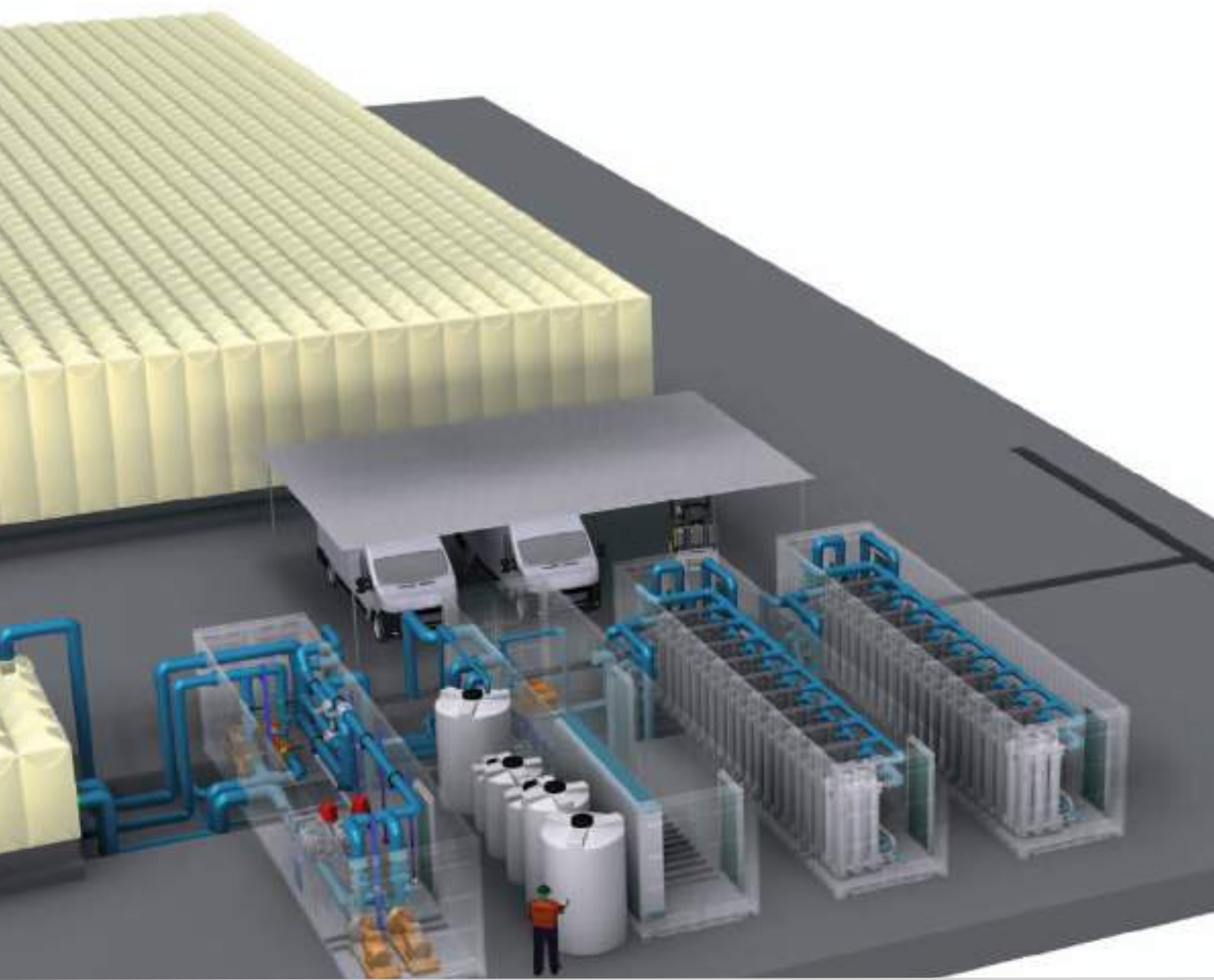
SEA WATER DESALINATION

tech specs:

MEDIA FILTRATION	16 m³/h
CARTRIDGE MICRO-FILTRATION	16 m³/h
REVERSE OSMOSIS	6.25 m³/h



ULTRAFILTRATION



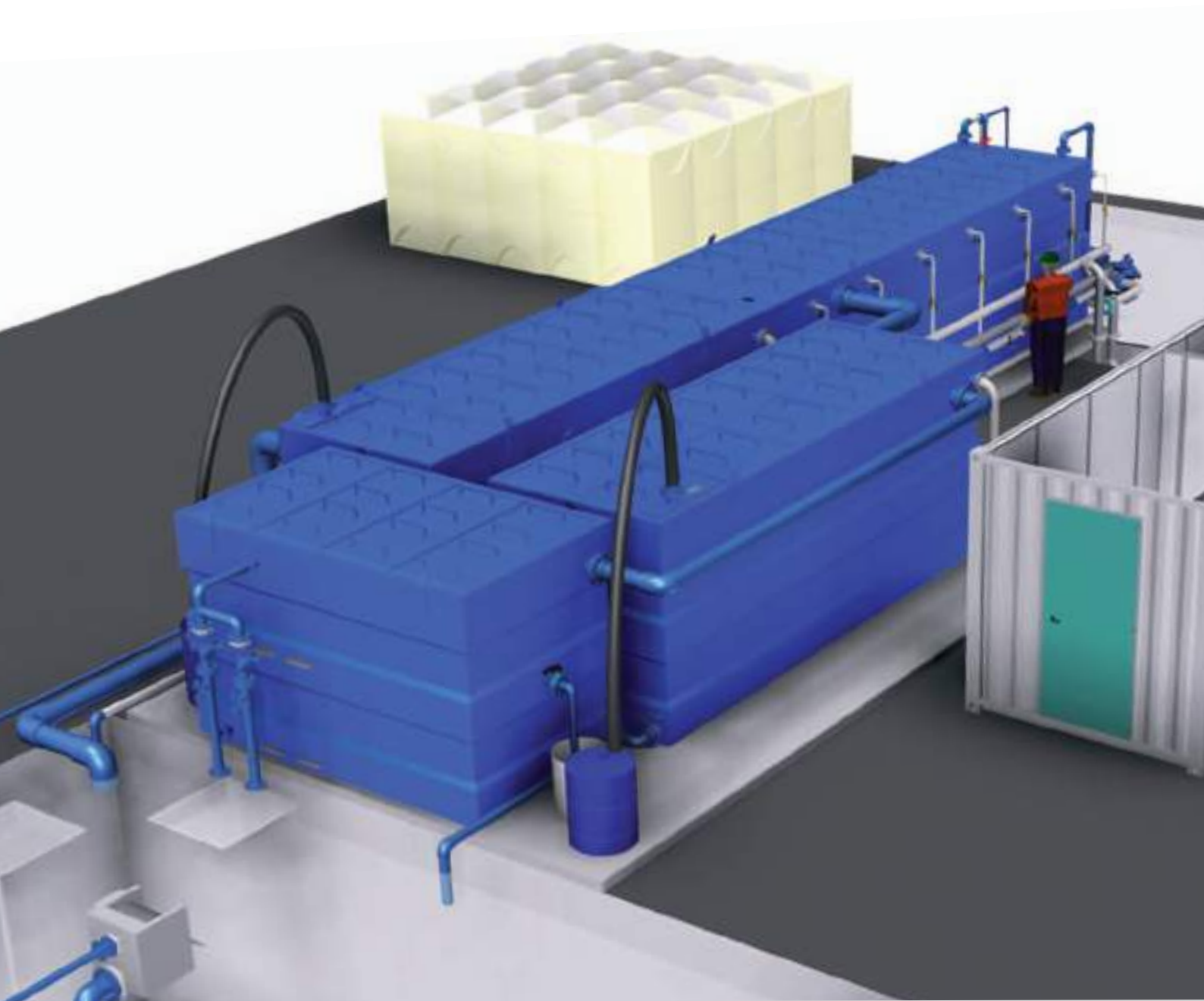
RIVER WATER PURIFICATION - Middle East, 2014

tech specs:

PRE-FILTRATION	400 m ³ /h
ULTRAFILTRATION (60÷120 l/h)	367÷734 m ³ /h



BIOLOGICAL



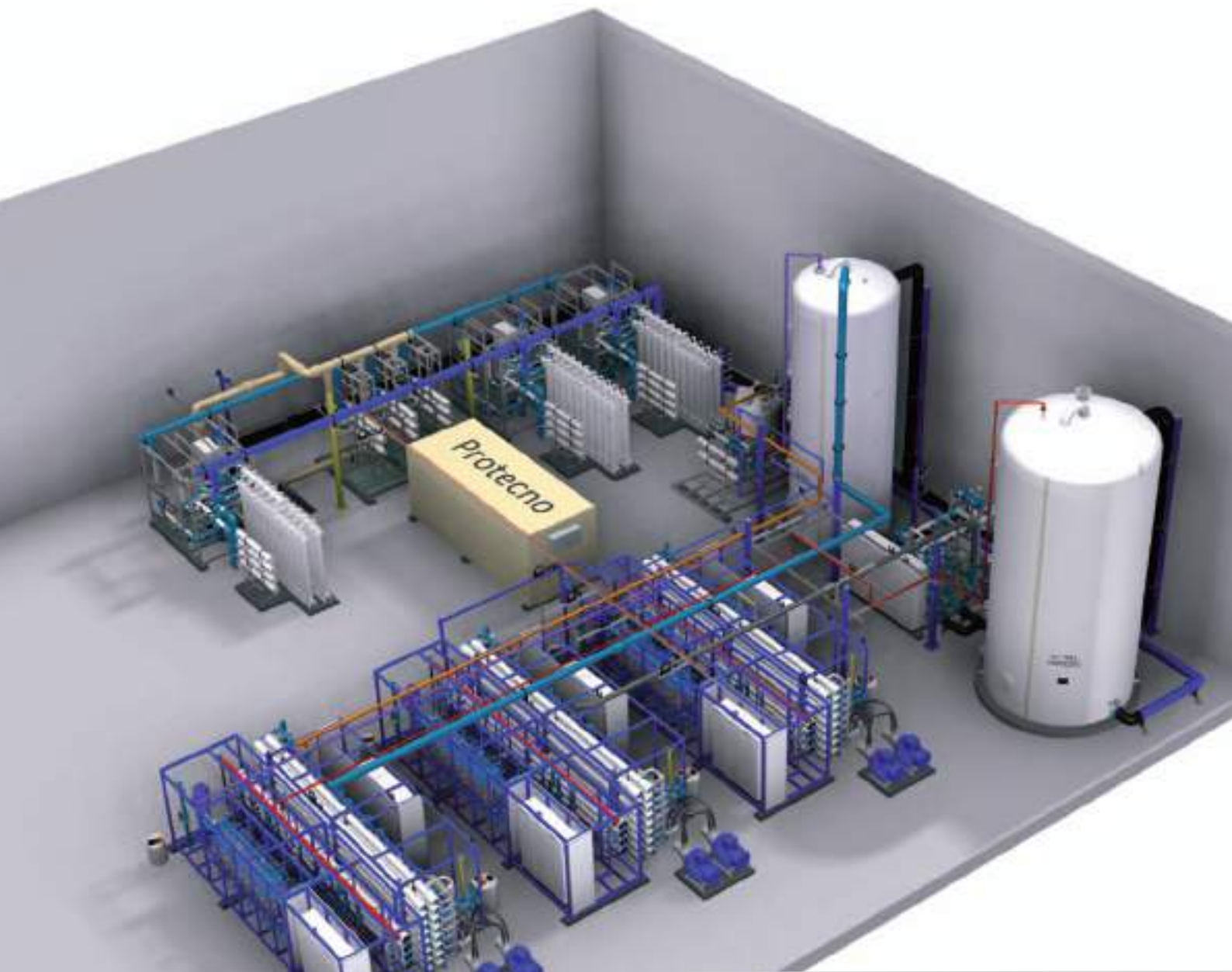
MUNICIPAL WASTE WATER PURIFICATION - Middle East, 2014

tech specs:

SCREENING	10 m ³ /h
GRIT AND GREASES REMOVAL	
NITRIFICATION	
MEMBRANE BIOLOGICAL REACTION	
DISINFECTION	



ULTRAFILTRATION, REVERSE OSMOSIS & ELECTRODEIONIZATION



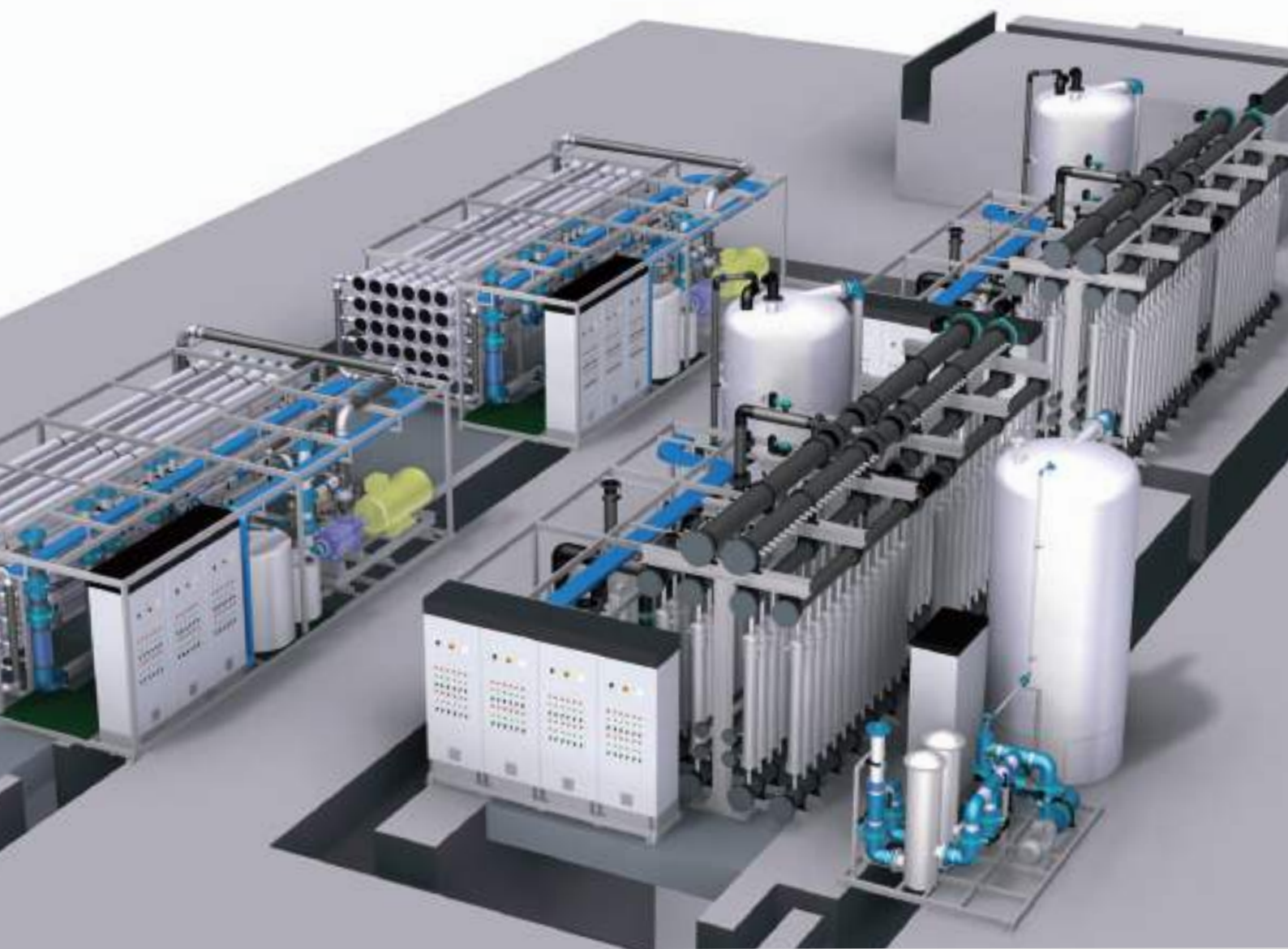
SEA WATER DESALINATION - Italy, 2015

tech specs:

PRE-FILTRATION	600 m ³ /h
ULTRAFILTRATION (60÷120 l/h)	280÷560 m ³ /h
CARTRIDGE MICRO-FILTRATION	427 m ³ /h
1 st PASS REVERSE OSMOSIS	200 m ³ /h
2 nd PASS REVERSE OSMOSIS	100 m ³ /h
ELECTRODEIONIZATION	90 m ³ /h



ULTRAFILTRATION, REVERSE OSMOSIS & ADVANCED OXIDATION



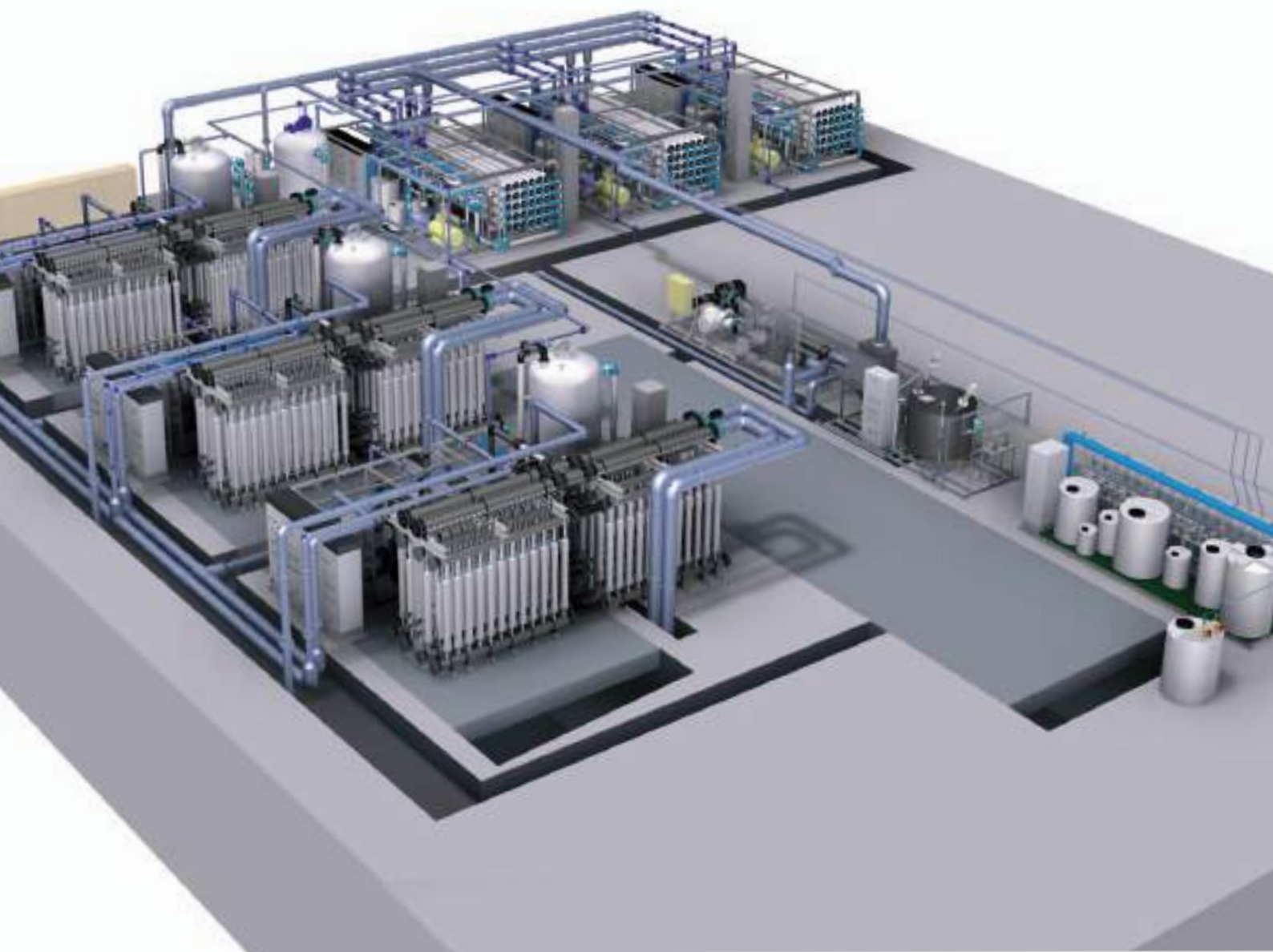
WASTE WATER REUSE - Europe, 2015

tech specs:

PRE-FILTRATION	366 m ³ /h
ULTRAFILTRATION (60÷120 l/h)	640÷1,280 m ³ /h
CARTRIDGE MICRO-FILTRATION	333 m ³ /h
REVERSE OSMOSIS	250 m ³ /h
ADVANCED OXIDATION (UV + H ₂ O ₂)	250 m ³ /h
REMINERALIZATION	250 m ³ /h



ULTRAFILTRATION, REVERSE OSMOSIS & ADVANCED OXIDATION



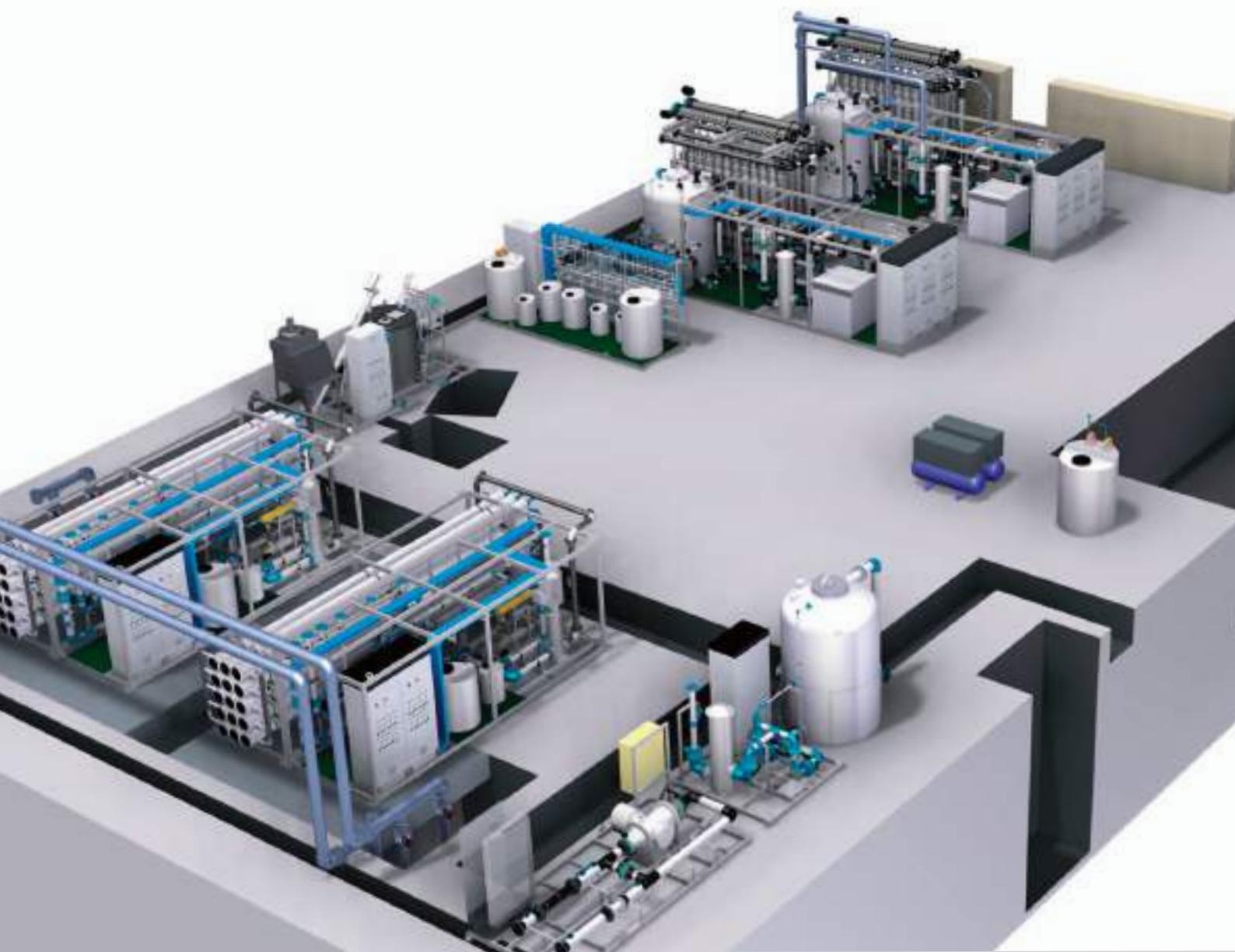
WASTE WATER REUSE - Europe, 2015

tech specs:

PRE-FILTRATION	615 m³/h
ULTRAFILTRATION (60÷120 l/h)	963÷1,926 m³/h
CARTRIDGE MICRO-FILTRATION	500 m³/h
REVERSE OSMOSIS	375 m³/h
ADVANCED OXIDATION (UV + H ₂ O ₂)	375 m³/h
REMINERALIZATION	375 m³/h



ULTRAFILTRATION, REVERSE OSMOSIS & ADVANCED OXIDATION



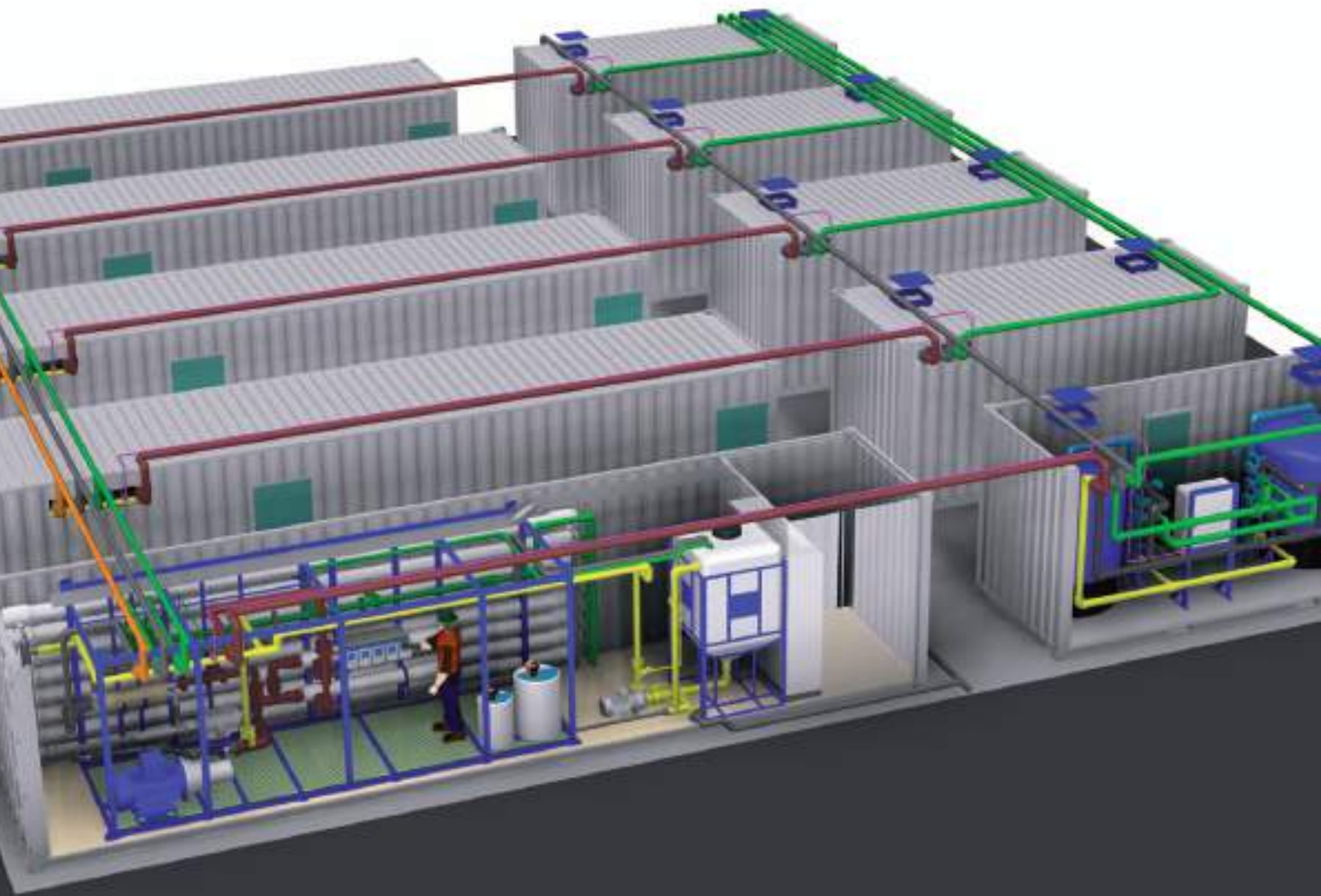
WASTE WATER REUSE - Europe, 2015

tech specs:

PRE-FILTRATION	183 m ³ /h
ULTRAFILTRATION (60÷120 l/h)	320÷640 m ³ /h
CARTRIDGE MICRO-FILTRATION	167 m ³ /h
REVERSE OSMOSIS	125 m ³ /h
ADVANCED OXIDATION (UV + H ₂ O ₂)	125 m ³ /h
REMINERALIZATION	125 m ³ /h



MEDIA FILTRATION & REVERSE OSMOSIS



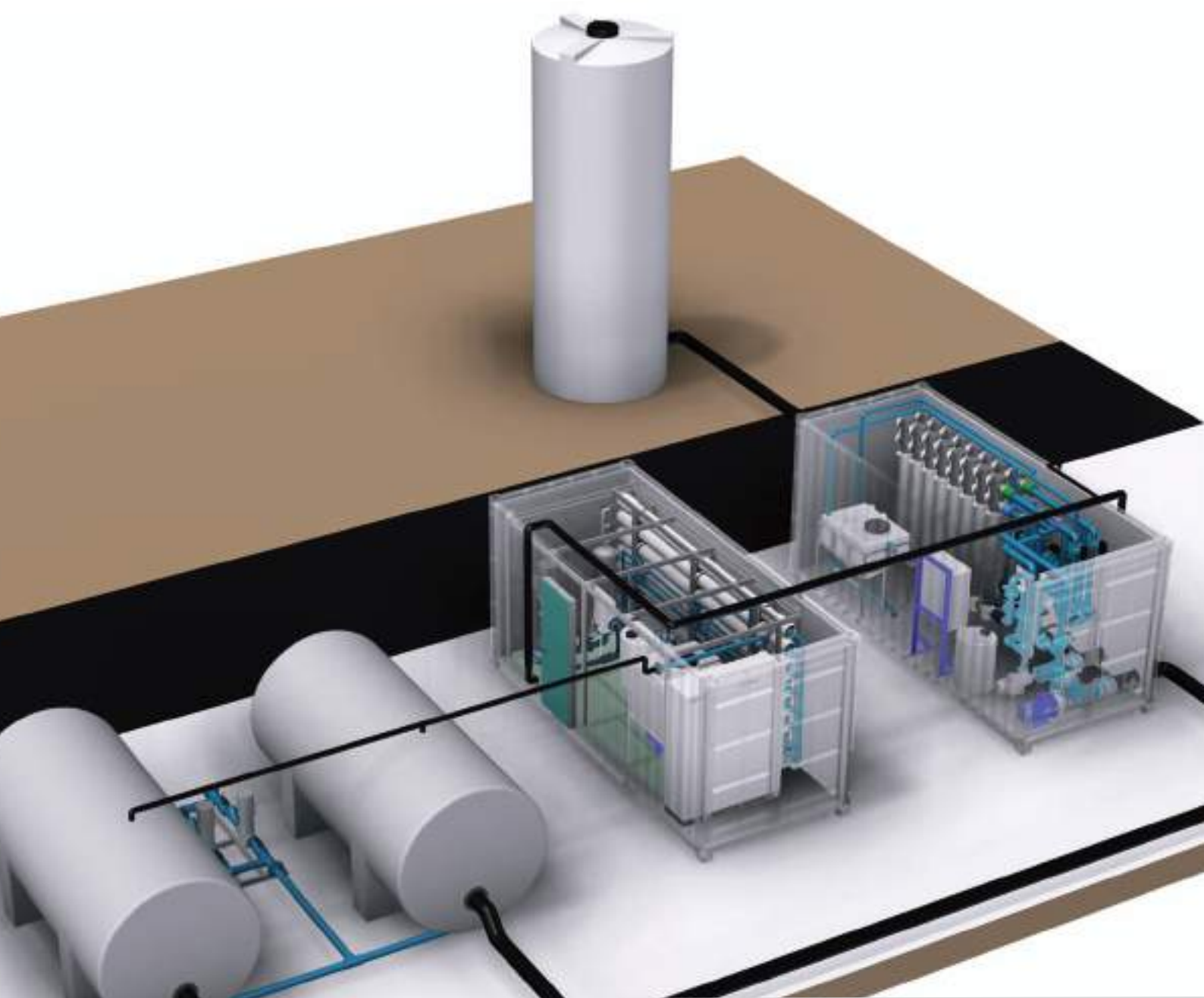
SEA WATER DESALINATION - Central America, 2015

tech specs:

MEDIA FILTRATION	430 m³/h
CARTRIDGE MICRO-FILTRATION	430 m³/h
REVERSE OSMOSIS	180 m³/h



ULTRAFILTRATION & REVERSE OSMOSIS



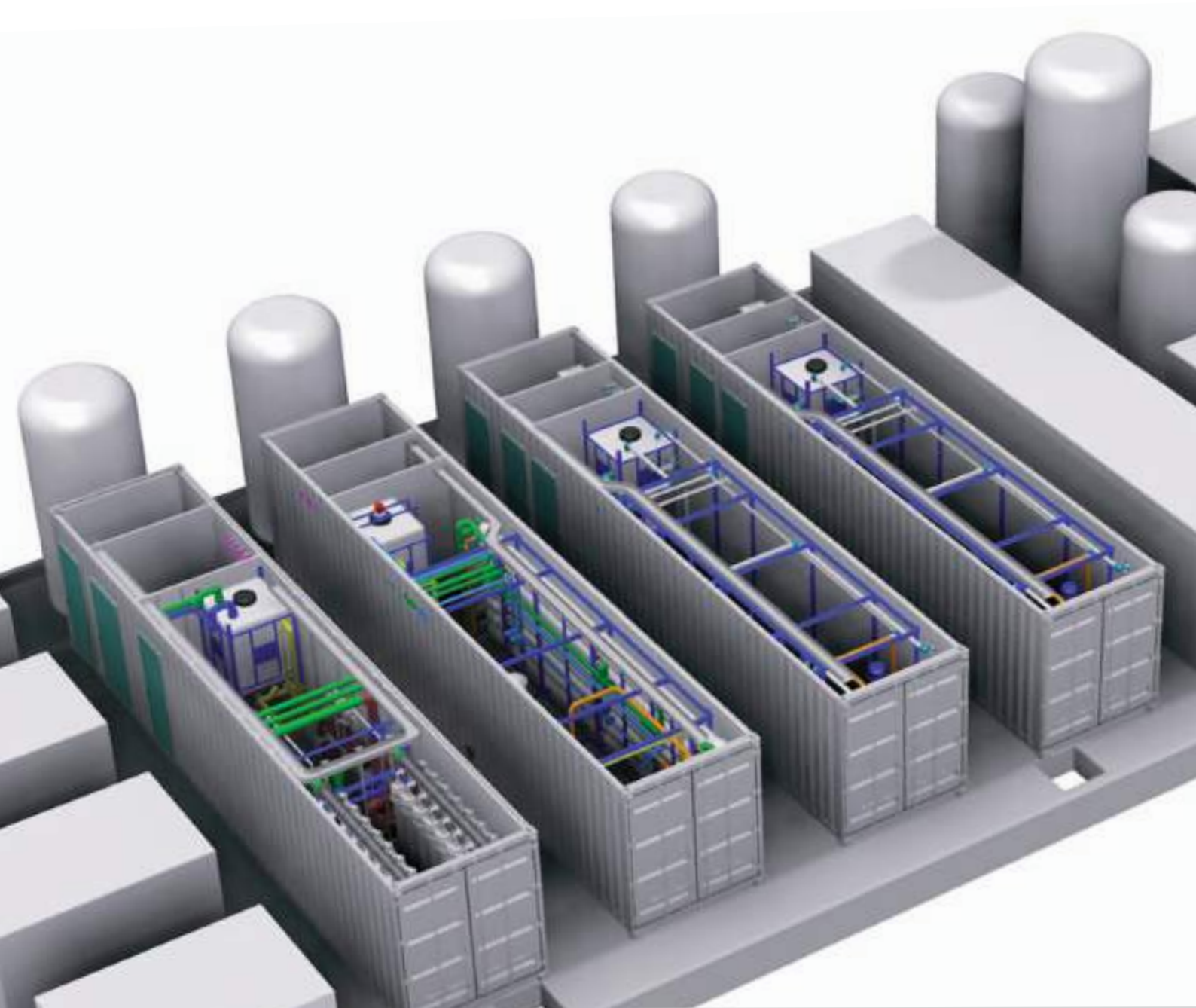
BRACKISH WATER DEMINERALIZATION - Central America, 2015

tech specs:

PRE-FILTRATION	42 m ³ /h
ULTRAFILTRATION (60÷120 l/h)	53÷106 m ³ /h
CARTRIDGE MICRO-FILTRATION	40 m ³ /h
REVERSE OSMOSIS	26 m ³ /h



ULTRAFILTRATION & REVERSE OSMOSIS



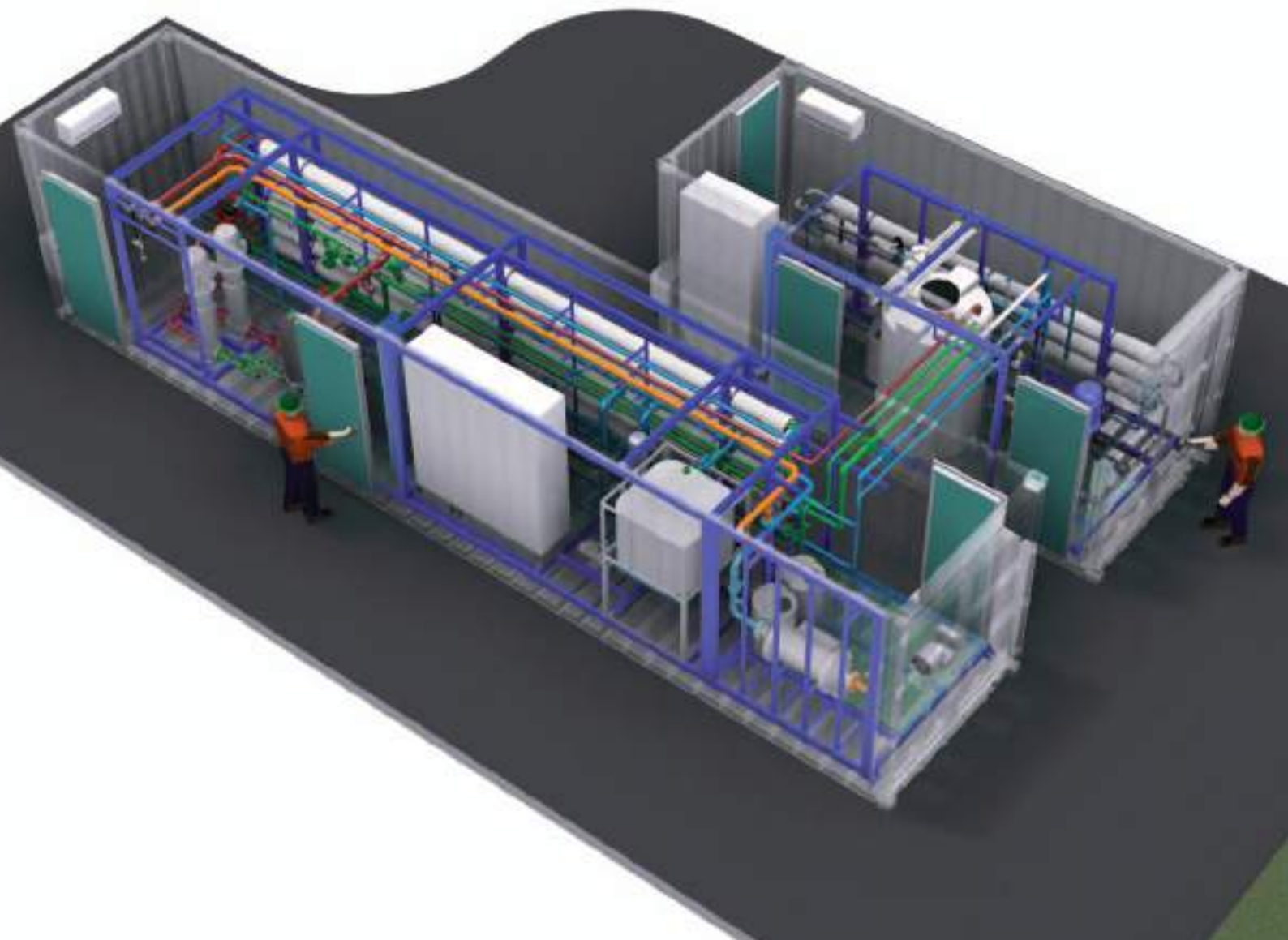
LANDFILL LEACHATE TREATMENT - Italy, 2015

tech specs:

PRE-FILTRATION	106 m ³ /h
ULTRAFILTRATION (60÷120 l/h)	98÷196 m ³ /h
CARTRIDGE MICRO-FILTRATION	108 m ³ /h
1 st PASS REVERSE OSMOSIS	83 m ³ /h
2 nd PASS REVERSE OSMOSIS	75 m ³ /h



REVERSE OSMOSIS



PHARMACEUTICAL USE WATER DESALINATION - Italy, 2015

tech specs:

CARTRIDGE MICRO-FILTRATION	54 m ³ /h
1 st PASS REVERSE OSMOSIS	40 m ³ /h
2 nd PASS R.O. (1 st PASS CONCENTRATE)	8 m ³ /h
CARBON DIOXIDE REMOVAL	48 m ³ /h



BRINE SOFTENING



PROCESS WATER PURIFICATION - Italy, 2015

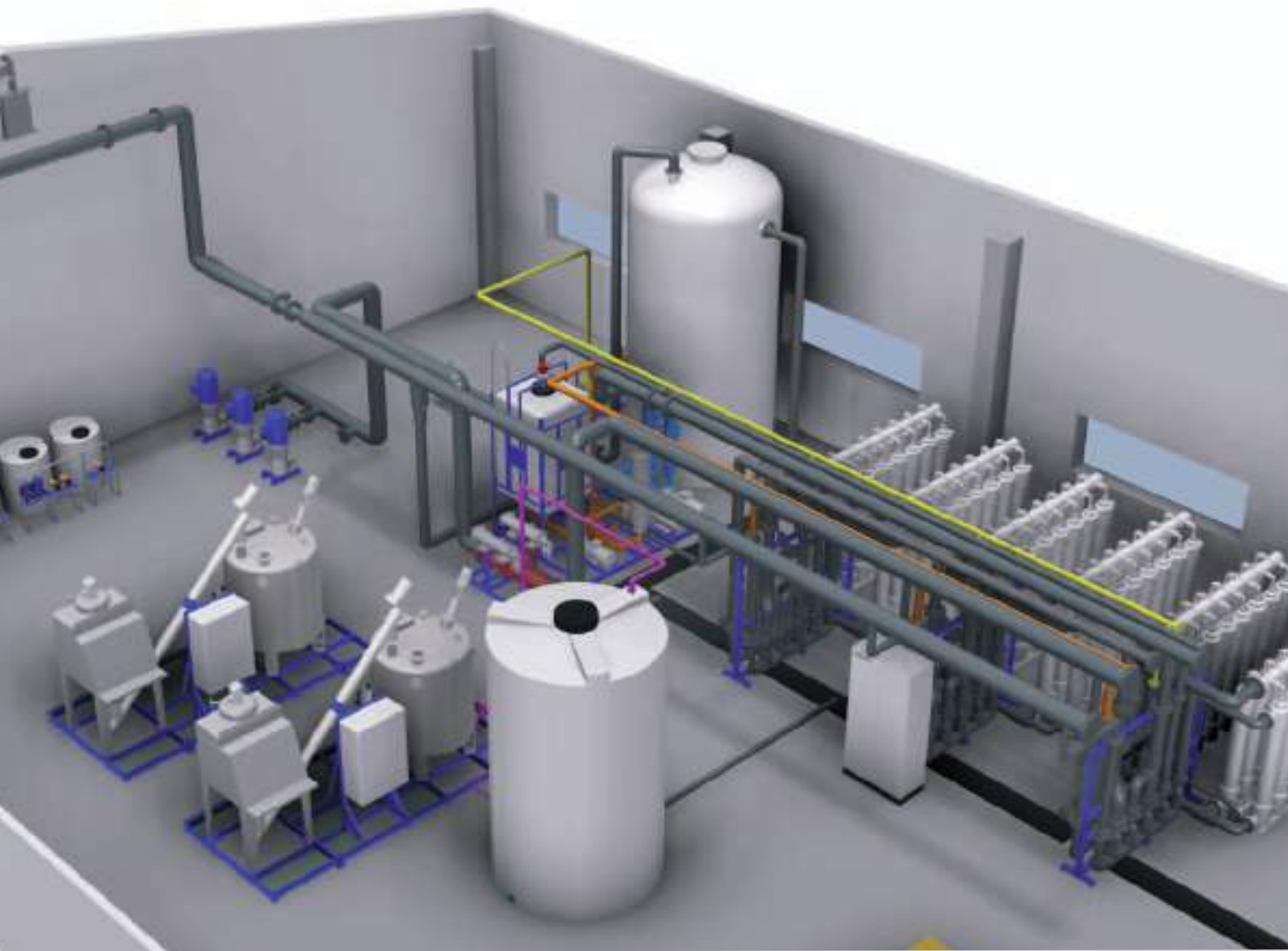
tech specs:

BRINE SOFTENING

70 m³/h



ULTRAFILTRATION



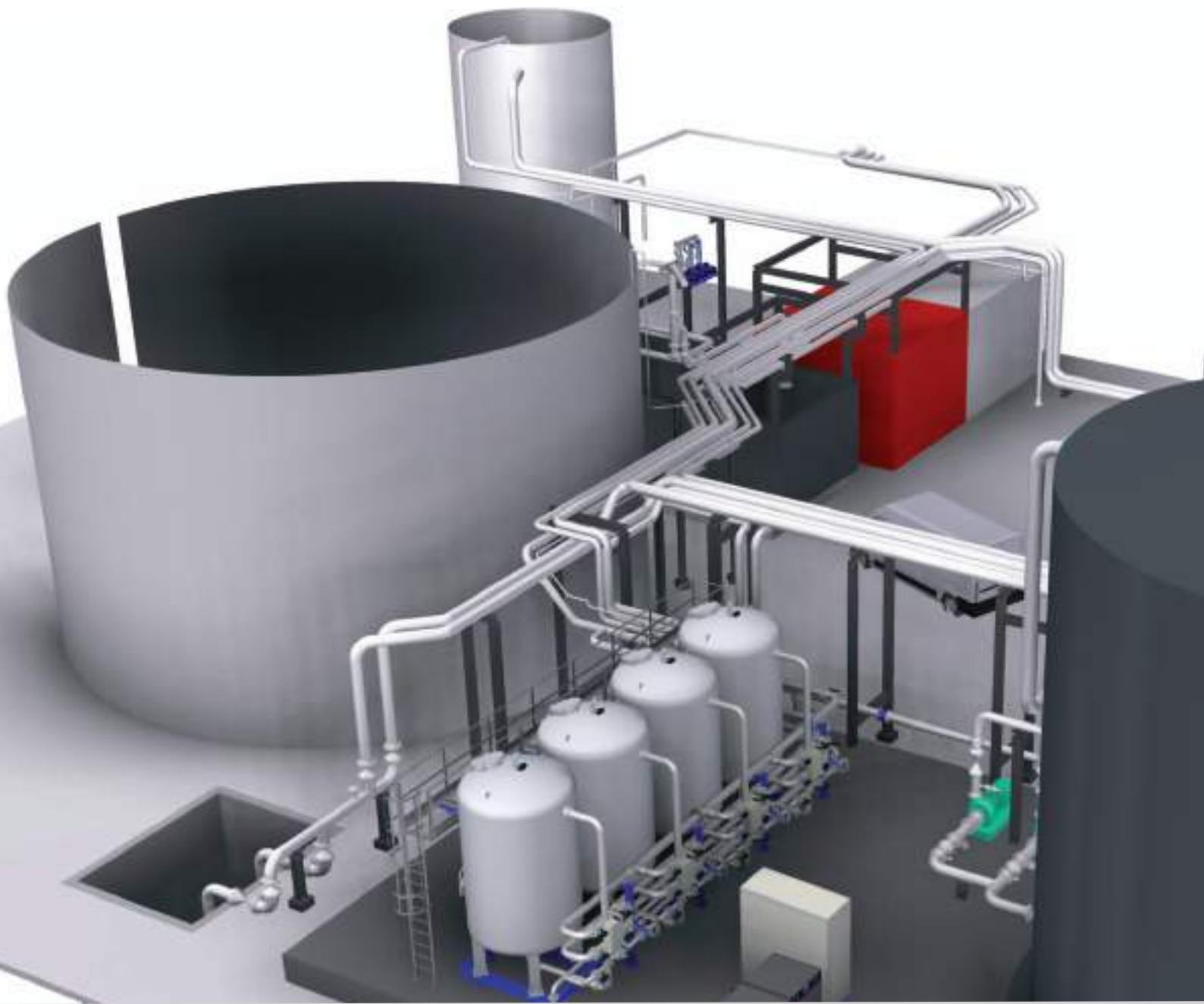
RIVER WATER PURIFICATION - Asia, 2015

tech specs:

PRE-FILTRATION	144 m ³ /h
ULTRAFILTRATION (60÷120 l/h)	294÷588 m ³ /h
REMINERALIZATION	144 m ³ /h



MEDIA FILTRATION



WASTE WATER PURIFICATION - Italy, 2015

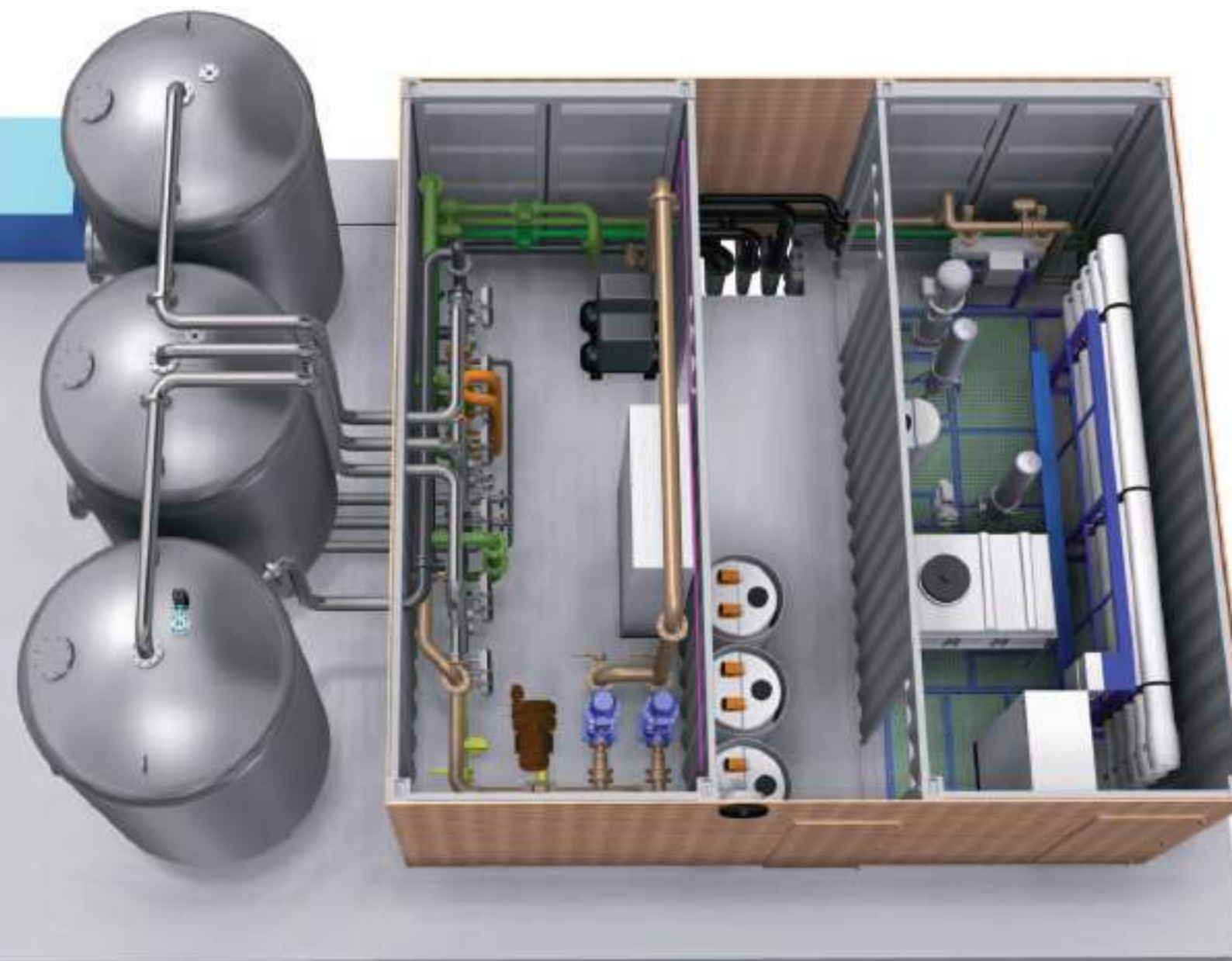
tech specs:

MEDIA FILTRATION

150 m³/h



MEDIA FILTRATION & REVERSE OSMOSIS



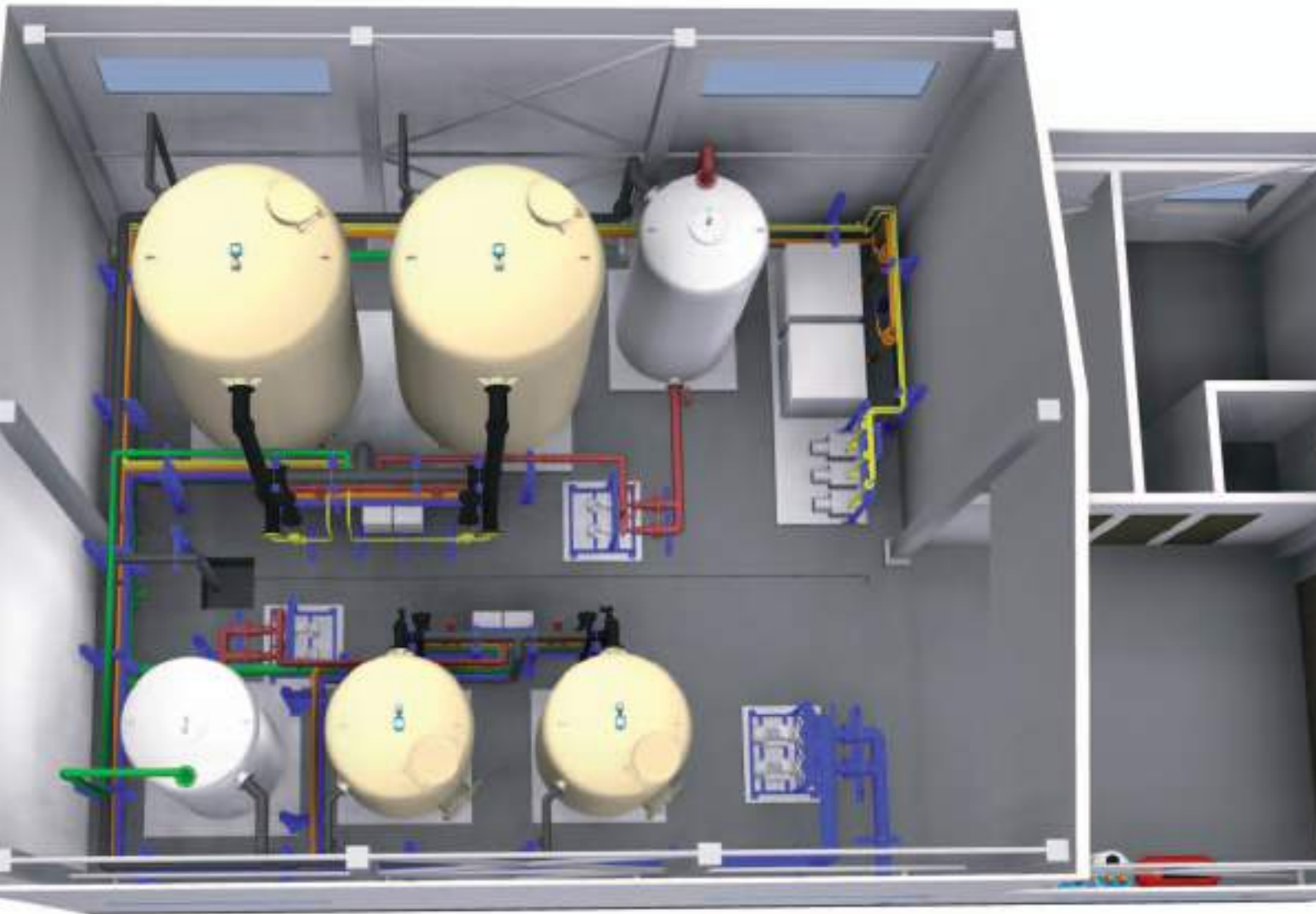
WELL WATER PURIFICATION - Italy, 2015

tech specs:

MEDIA FILTRATION	36 m ³ /h
MEDIA ARSENIC REMOVAL SECTION	14 m ³ /h
CARTRIDGE MICRO-FILTRATION	14 m ³ /h
R.O. ARSENIC REMOVAL SECTION	11 m ³ /h



BIOLOGICAL & MEDIA FILTRATION



WELL WATER PURIFICATION - Europe, 2016

tech specs (plant 1):

BIOLOGICAL FILTRATION	80 m³/h
MEDIA FILTRATION	80 m³/h

tech specs (plant 2):

BIOLOGICAL FILTRATION	60 m³/h
MEDIA FILTRATION	60 m³/h



ULTRAFILTRATION & REVERSE OSMOSIS



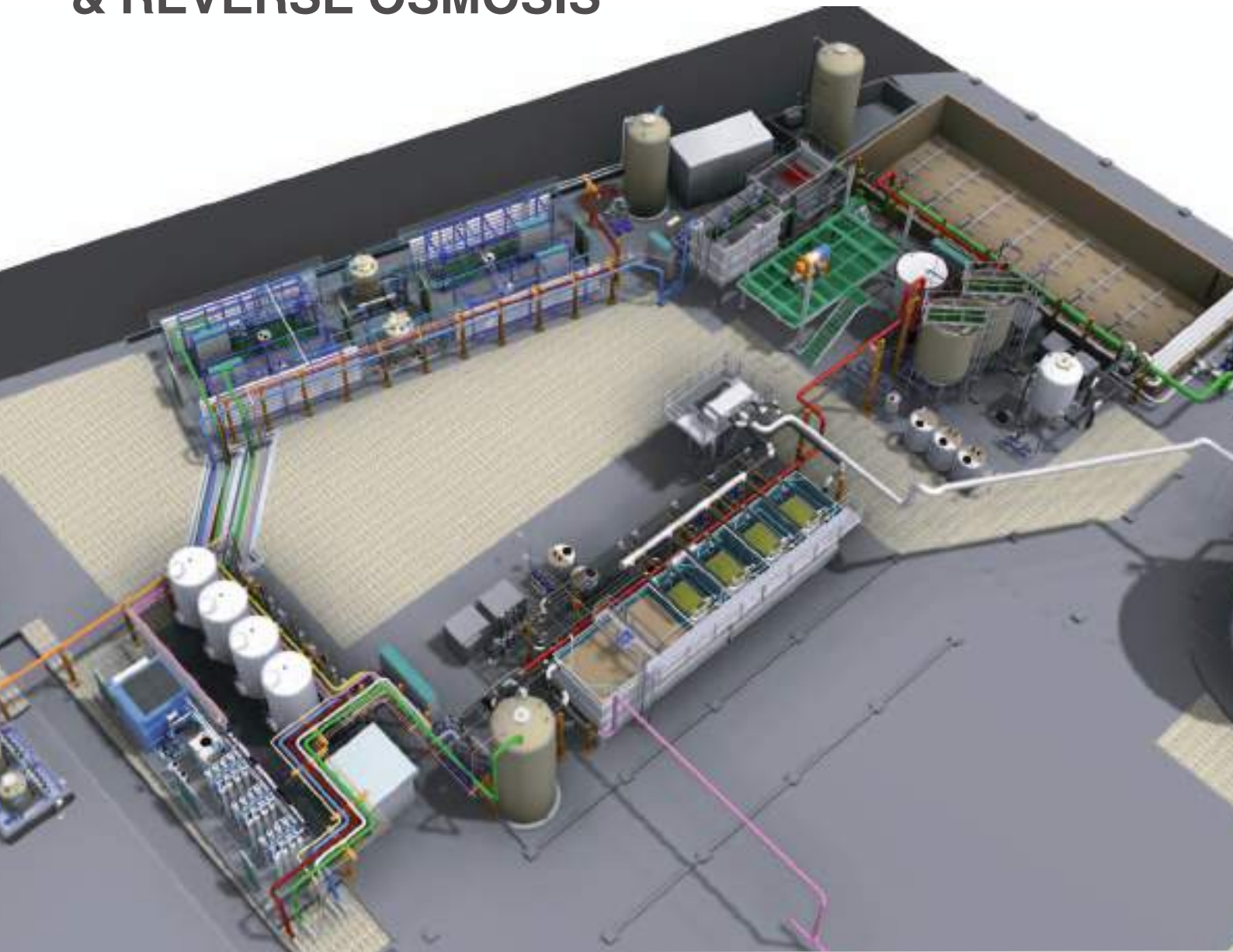
SEA WATER DESALINATION - Central America, 2016

tech specs:

PRE-FILTRATION	200 m ³ /h
ULTRAFILTRATION (60÷120 l/h)	158÷316 m ³ /h
CARTRIDGE MICRO-FILTRATION	180 m ³ /h
REVERSE OSMOSIS	70 m ³ /h



ULTRAFILTRATION, PHYSICAL-CHEMICAL, BIOLOGICAL, MEDIA FILTRATION & REVERSE OSMOSIS



WASTE WATER REUSE - Italy, 2016

tech specs:

CLARIFICATION	120 m ³ /h
MOVING BED BIOFILM REACTION	120 m ³ /h
MEMBRANE BIOLOGICAL REACTION	120 m ³ /h
MEDIA FILTRATION	130 m ³ /h
ULTRAFILTRATION	130 m ³ /h
CARTRIDGE MICRO-FILTRATION	130 m ³ /h
1 st PASS REVERSE OSMOSIS	100 m ³ /h
2 nd PASS REVERSE OSMOSIS	90 m ³ /h



ULTRAFILTRATION



GROUND WATER PURIFICATION - Europe, 2016

tech specs (plant 1):

CARTRIDGE MICRO-FILTRATION	155 m³/h
ULTRAFILTRATION (60÷120 l/h)	148÷296 m³/h

tech specs (plant 2):

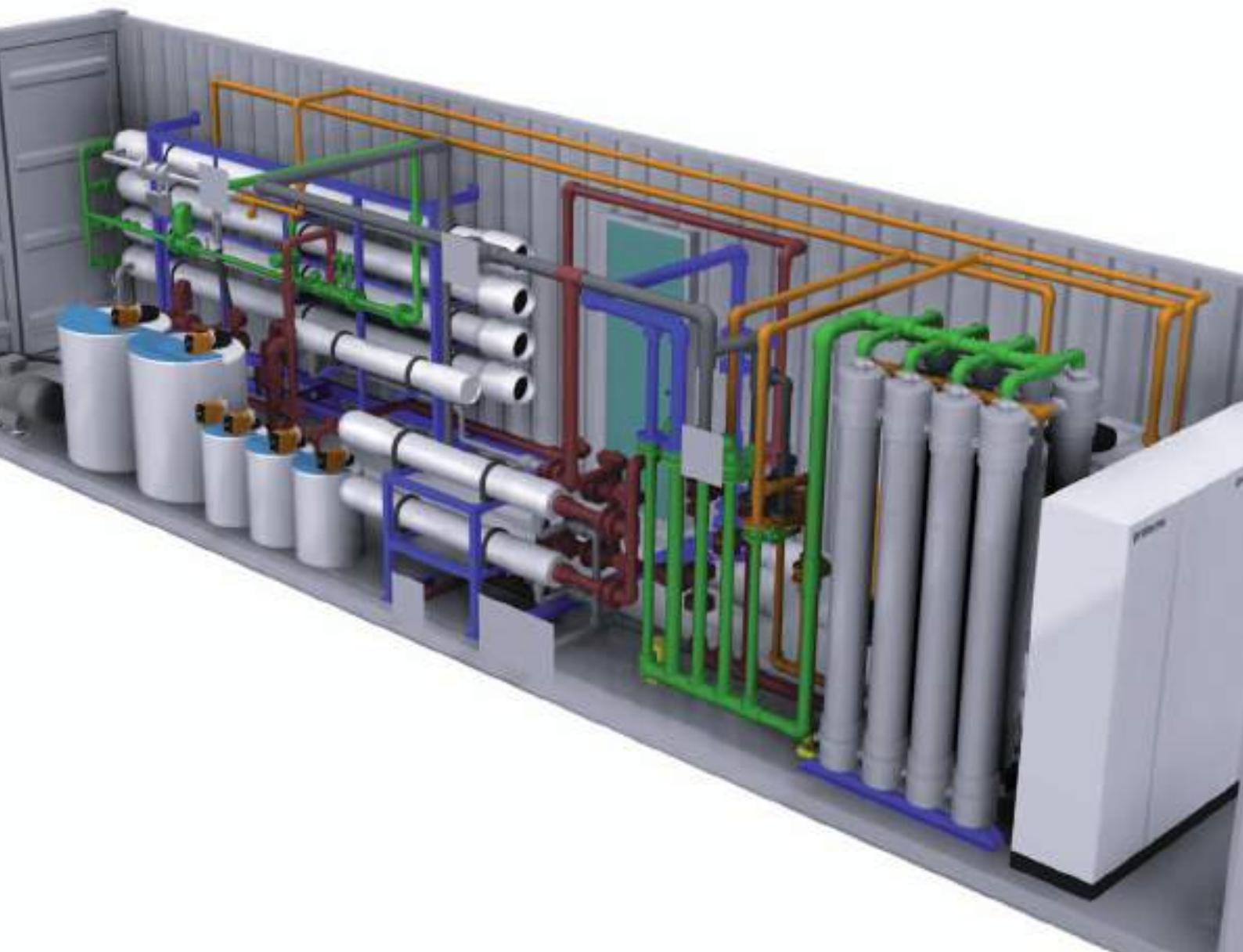
CARTRIDGE MICRO-FILTRATION	135 m³/h
ULTRAFILTRATION (60÷120 l/h)	129÷258 m³/h

tech specs (plant 3):

CARTRIDGE MICRO-FILTRATION	30 m³/h
ULTRAFILTRATION (60÷120 l/h)	28÷56 m³/h



ULTRAFILTRATION & REVERSE OSMOSIS



SEA, BRACKISH & SURFACE WATER DESALINATION

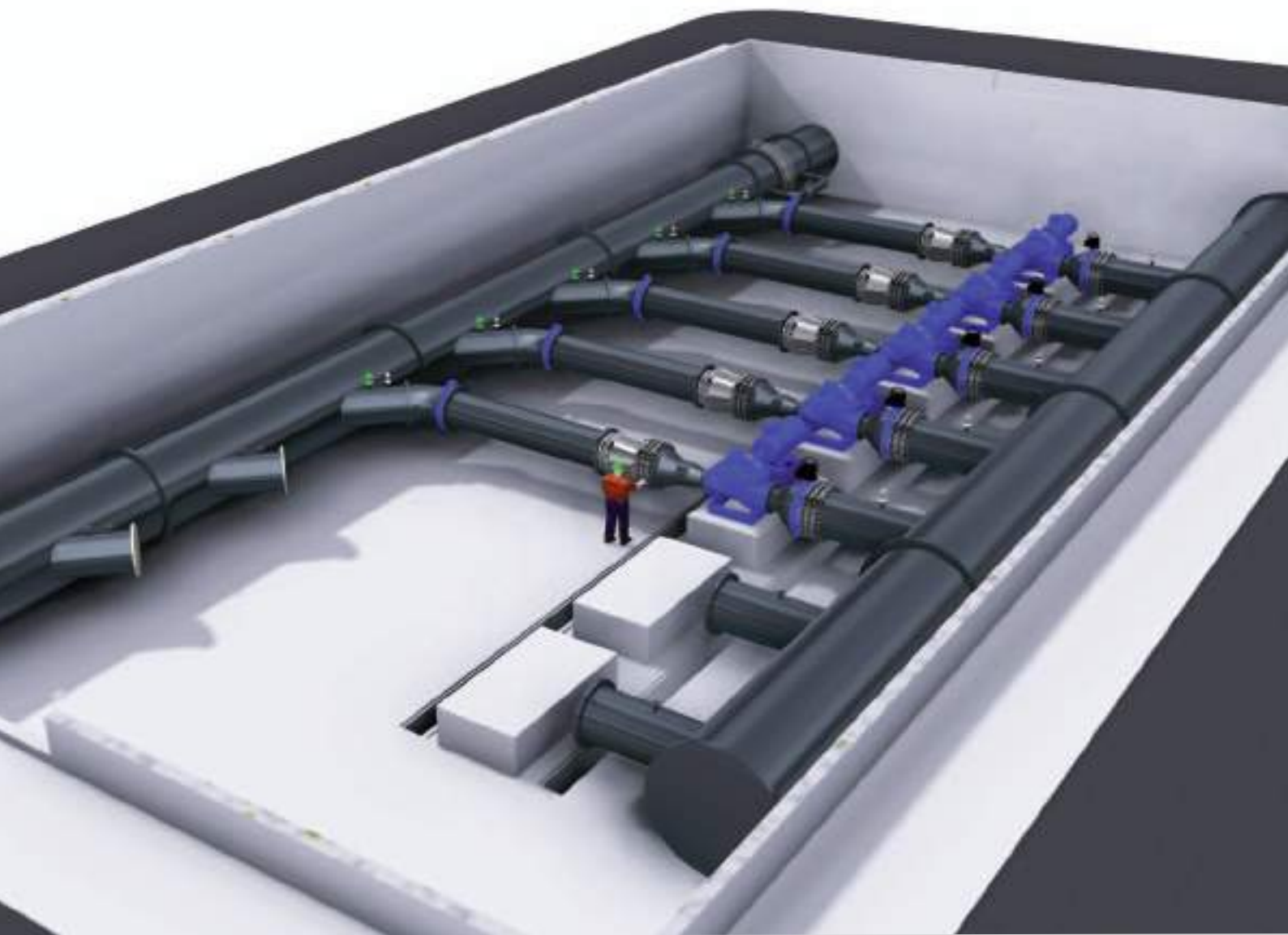
Central America, 2016

tech specs:

MECHANICAL FILTRATION	30 m ³ /h
ULTRAFILTRATION (60÷120 l/h)	25÷50 m ³ /h
CARTRIDGE MICRO-FILTRATION	23 m ³ /h
REVERSE OSMOSIS	10 m ³ /h



PUMPING



DAM WATER LIFTING STATIONS - North Africa, 2016

tech specs (station 1):

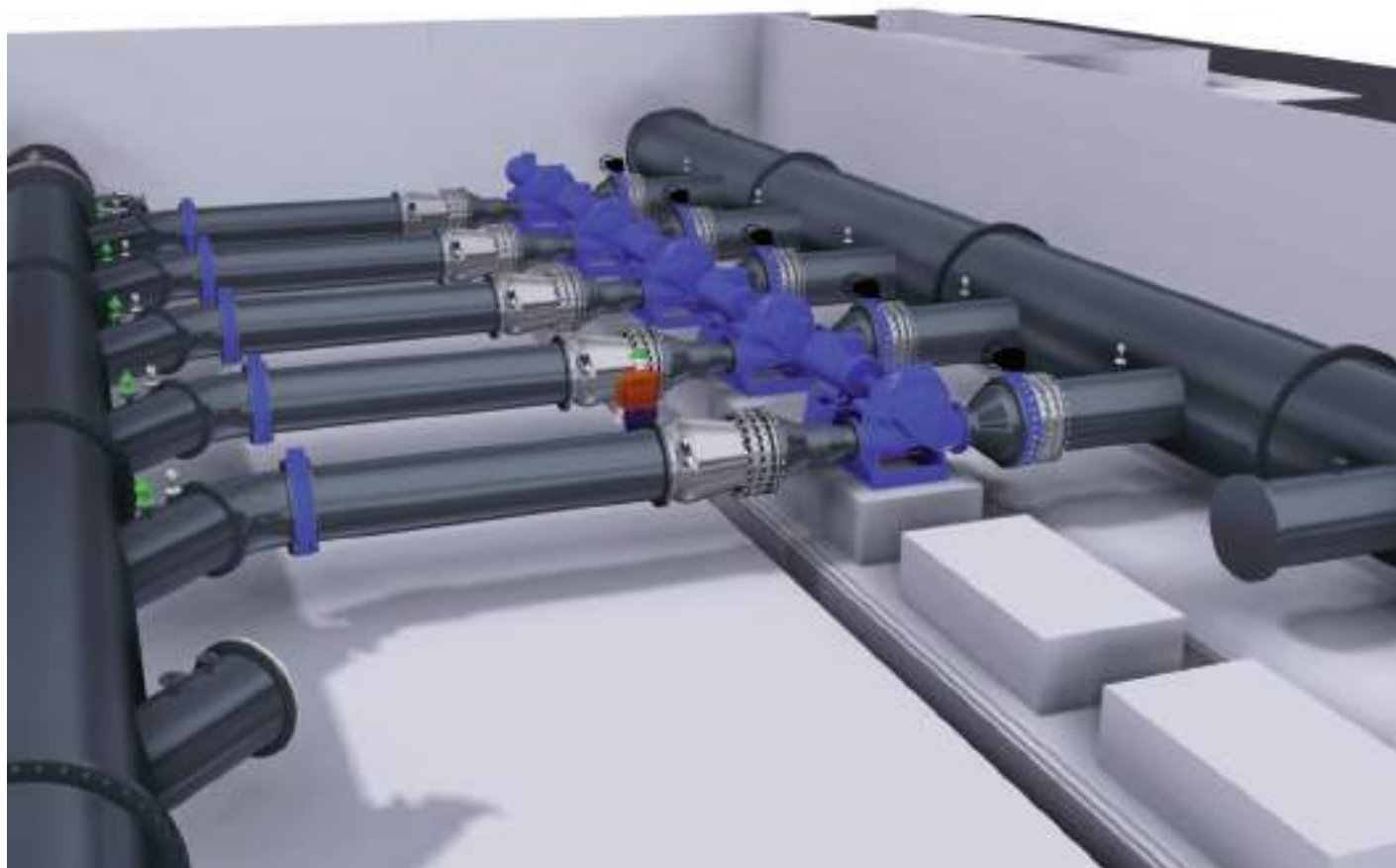
PUMPING	9,360 m ³ /h
---------	-------------------------

tech specs (station 2):

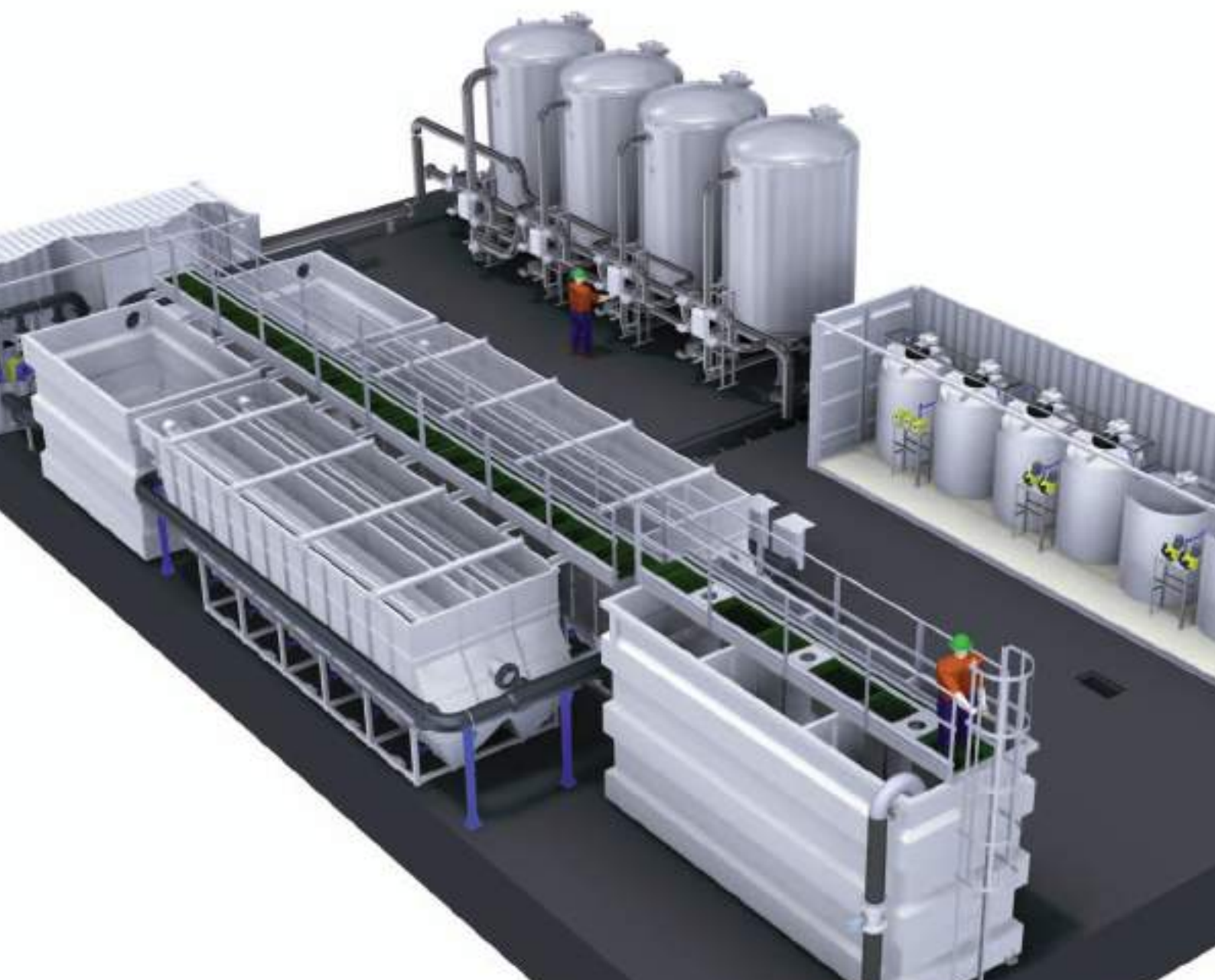
PUMPING	7,200 m ³ /h
---------	-------------------------

tech specs (station 3):

PUMPING	7,200 m ³ /h
---------	-------------------------



PHYSICAL-CHEMICAL & MEDIA FILTRATION



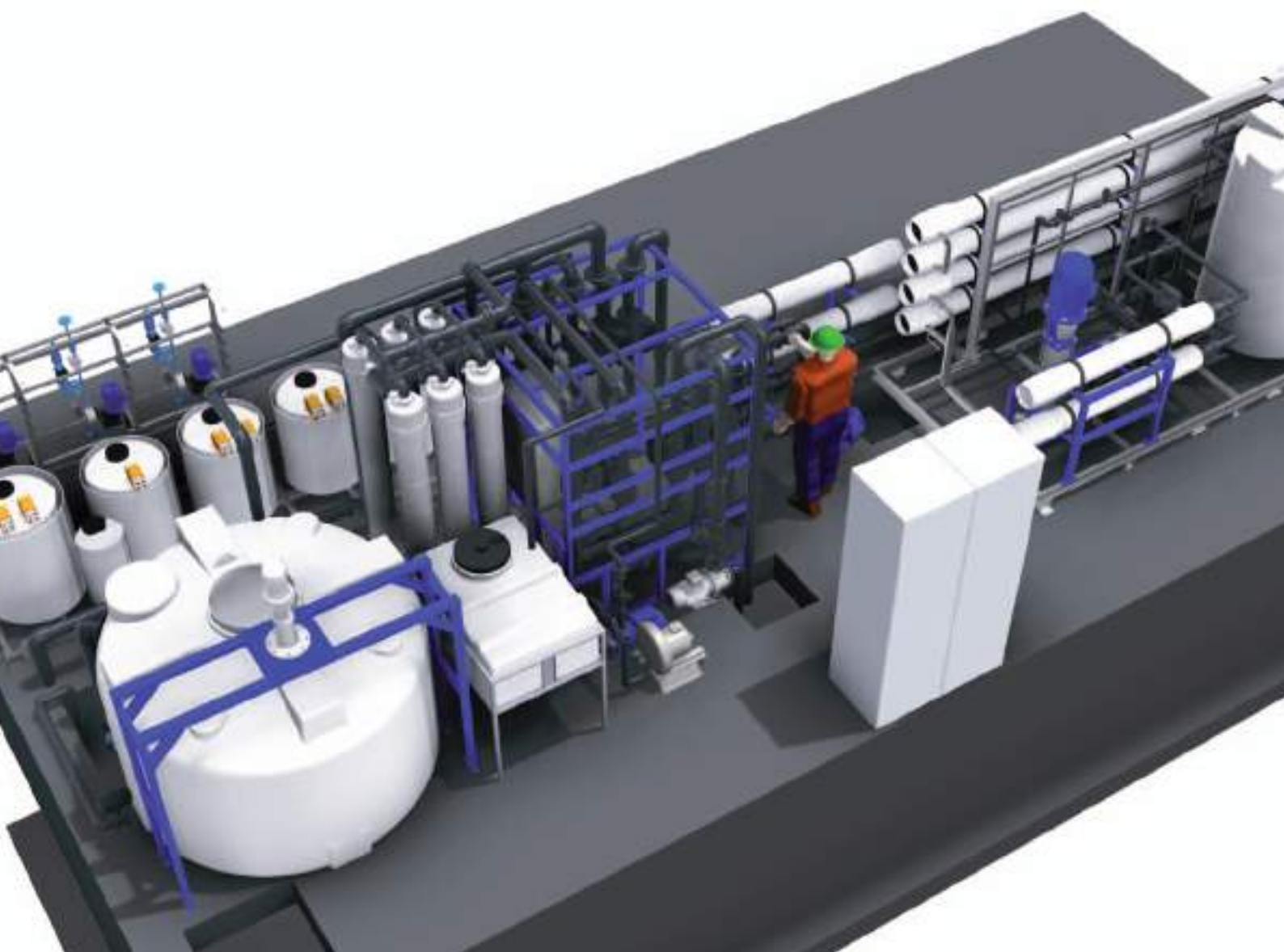
SURFACE WATER PURIFICATION - North Africa, 2016

tech specs:

CLARIFICATION	215 m ³ /h
MEDIA FILTRATION	205 m ³ /h



ULTRAFILTRATION & REVERSE OSMOSIS



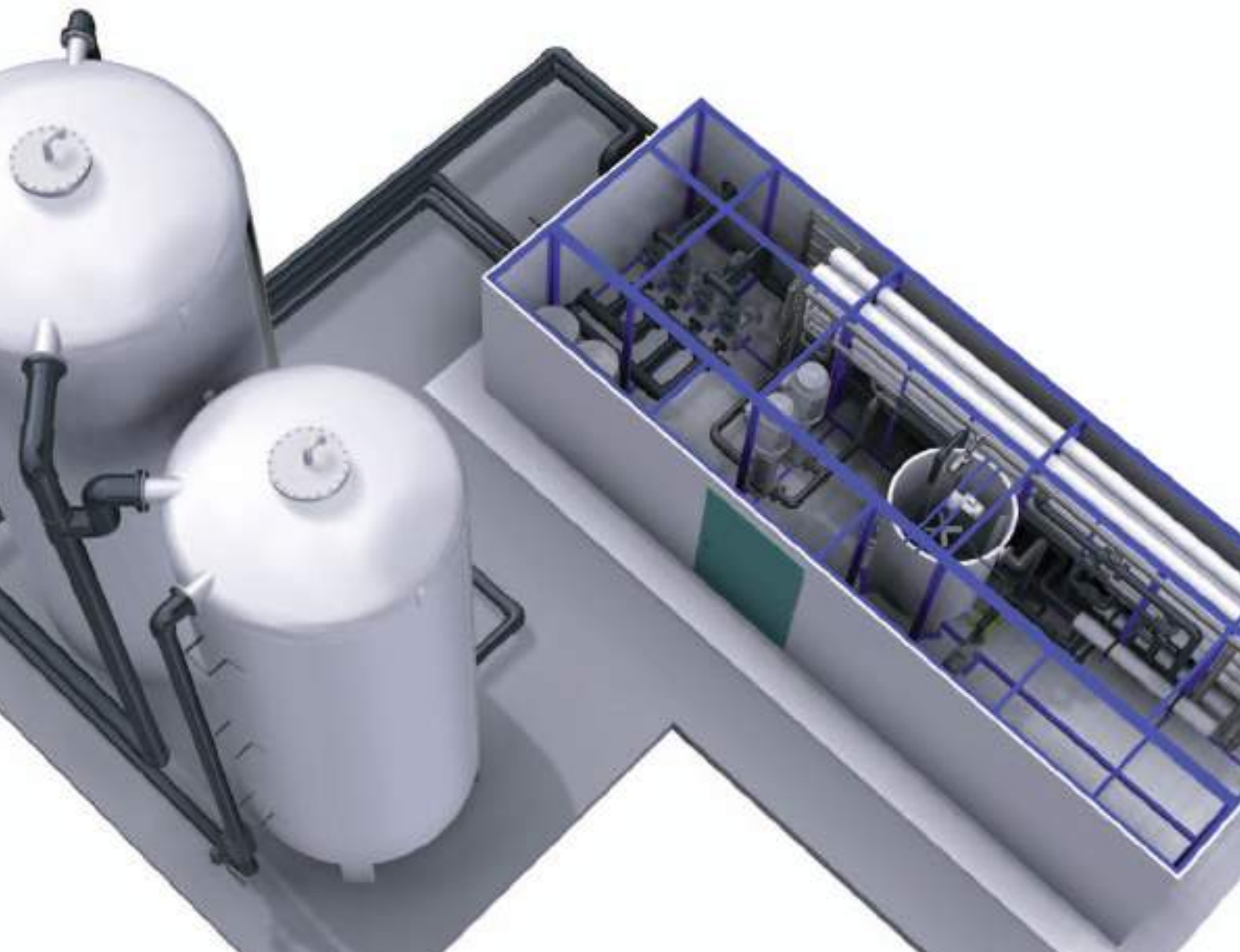
WELL WATER PURIFICATION - Italy, 2016

tech specs:

PRE-FILTRATION	33 m ³ /h
ULTRAFILTRATION (60÷120 l/h)	32÷64 m ³ /h
CARTRIDGE MICRO-FILTRATION	31 m ³ /h
REVERSE OSMOSIS	23 m ³ /h



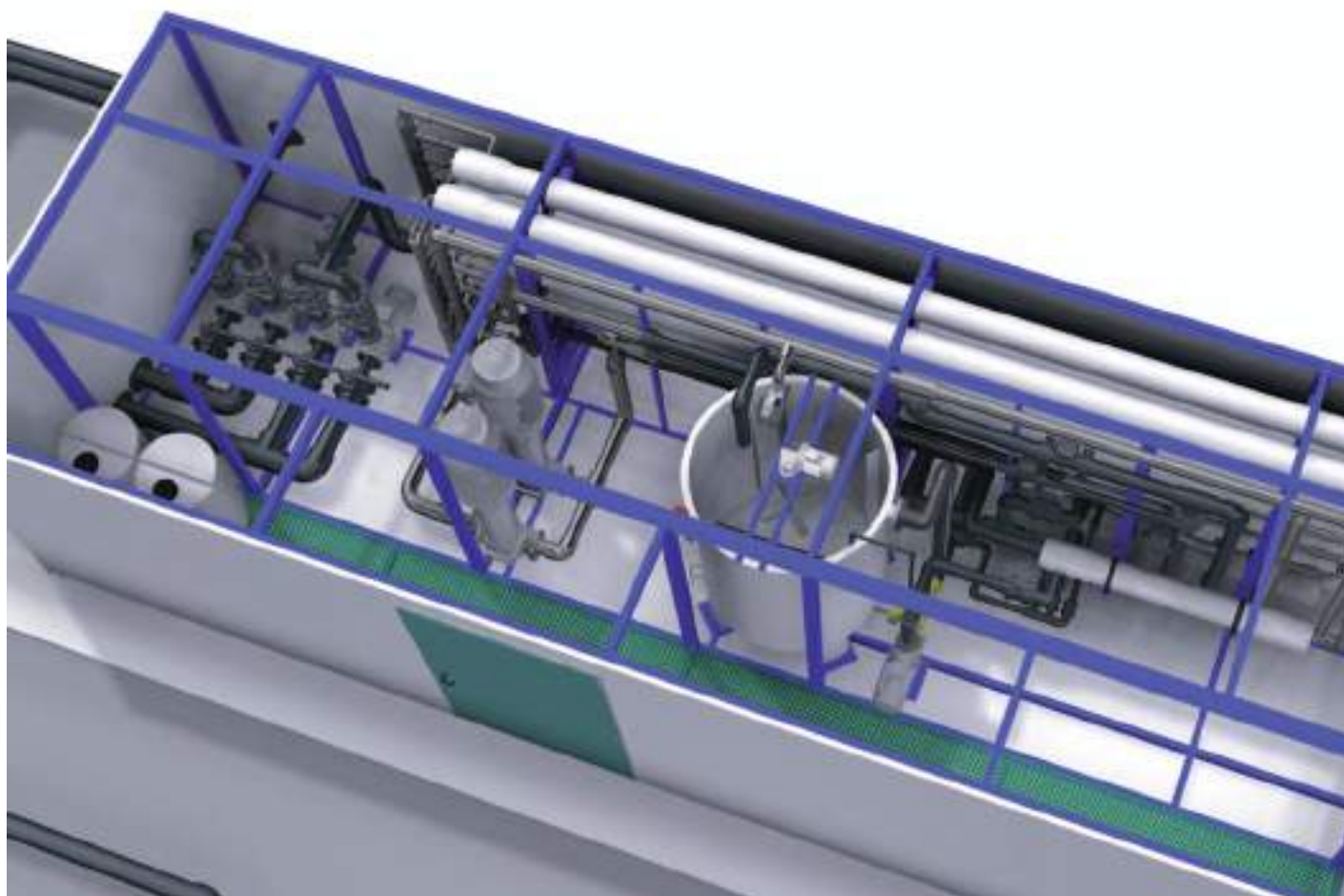
REVERSE OSMOSIS



WELL WATER PURIFICATION - Italy, 2016

tech specs:

CARTRIDGE MICRO-FILTRATION	66÷85 m ³ /h
REVERSE OSMOSIS	50÷64 m ³ /h



PHYSICAL-CHEMICAL & REVERSE OSMOSIS



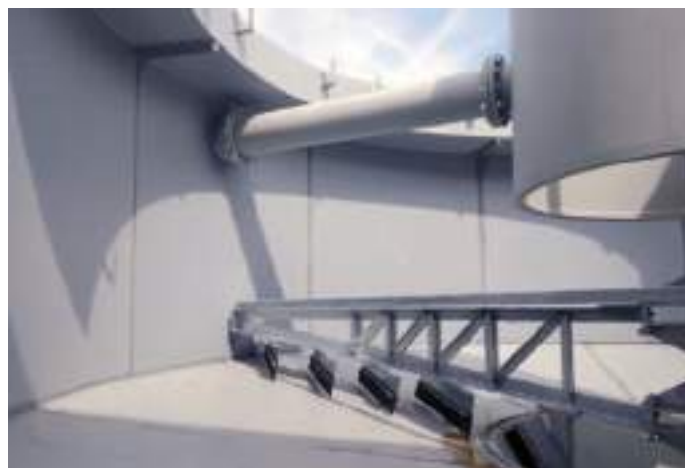
INDUSTRIAL WASTE WATER PURIFICATION & REUSE - Italy, 2016

tech specs (plant 1):

COAGULATION-FLOCCULATION	37 m ³ /h
SETTLEMENT	24 m ³ /h

tech specs (plant 2):

CARTRIDGE MICRO-FILTRATION	87 m ³ /h
REVERSE OSMOSIS	70 m ³ /h



ULTRAFILTRATION & REVERSE OSMOSIS



SEA WATER DESALINATION - Central America, 2017

tech specs:

PRE-FILTRATION	496 m³/h
ULTRAFILTRATION (60÷120 lmh)	452÷904 m³/h
CARTRIDGE MICRO-FILTRATION	450 m³/h
REVERSE OSMOSIS	200 m³/h



REVERSE OSMOSIS



WELL WATER DESALINATION - Italy, 2017

tech specs:

CARTRIDGE MICRO-FILTRATION	55 m ³ /h
REVERSE OSMOSIS	42 m ³ /h
CONCENTRATE REVERSE OSMOSIS	8 m ³ /h
GAS REMOVAL MEMBRANE	50 m ³ /h



ULTRAFILTRATION, MEDIA FILTRATION & REVERSE OSMOSIS



BRACKISH WATER DEMINERALIZATION - Italy, 2017

tech specs:

PRE-FILTRATION	60 m ³ /h
ULTRAFILTRATION	54 m ³ /h
MEDIA FILTRATION	54 m ³ /h
CARTRIDGE MICRO-FILTRATION	54 m ³ /h
REVERSE OSMOSIS 1 st PASS	44 m ³ /h
REVERSE OSMOSIS 2 nd PASS	17 m ³ /h



**PROFESSIONAL
TECHNOLOGY**

**THE FINEST
ITALIAN WATER
TREATMENT PLANTS**

**DESIGNED IN ITALY,
MADE IN ITALY**

WWW.PROTECNOSRL.IT

**WATER TREATMENT
PLANTS & SYSTEMS**



Protecno Srl

Via E. Mattei 9, 61037 Mondolfo (PU), Italy
Tel. +39 0721 959583 - Fax +39 0721 957092
www.protecnosrl.it - info@protecnosrl.it